



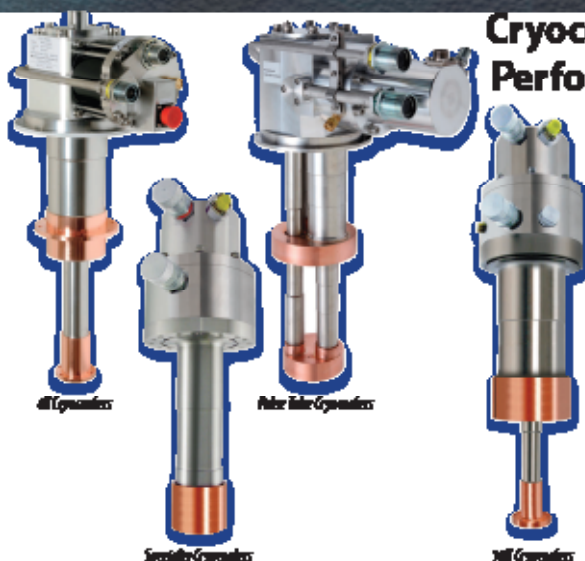
PROGRAMME



1 — 5 SEPTEMBER 2019

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Sunitomo (SHI) Cryogenics Shanghai, Ltd.
Phone: 86 21-54865118 • ZCryo_ChinaSales@shi.co.jp
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WELCOME



On behalf of the entire UK Superconductivity community we are delighted to be able to welcome colleagues from Europe and around the world to the 14th European Conference on Applied Superconductivity in Glasgow, Scotland. The cross-fertilisation of ideas from open discussion is a bedrock of scientific progress which, at a time when some are looking in on themselves and are distrustful of collaboration, we are committed to facilitating during this week.

A key aspect of EUCAS 2019 is that, while presentations are streamed into Materials, Electronics and Large-Scale, there is plenty of opportunity for attendees to look outside their own speciality for new opportunities. In this context we would particularly encourage attendance at our special sessions which address important topics for the whole applied superconductivity community.

The International Scientific Programme Committee, led by Profs. Damian Hampshire, Susie Speller, Yifeng Yang and Paul Warburton, has drawn together a diverse, engaging and high-quality programme of talks and posters. We are, in particular, very pleased to be able to welcome our Keynote and Plenary speakers who will set out the wider context in which we are working.

We are particularly grateful to our sponsors: Sumitomo Cryogenics, BlueFors, Oxford Instruments, Out of the Fog Research, Janis, Kiswire and Shanghai Superconductor. Their support of this endeavour underlines the strong connection and productive collaboration between universities, research institutes and industry that drives the applied superconductor community ever forward.

As at previous EUCAS conferences, all presenters will be invited to publish a manuscript in the Journal of Physics

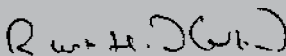
Conference Series so as to provide a lasting record of the meeting. Keynote, Plenary, invited speakers and select contributors recommended by session chairs will be invited to submit a manuscript for publication in an associated special issue of Superconductor Science and Technology. We are grateful for the enthusiastic engagement of Institute of Physics Publishing with the EUCAS conference.

Glasgow is a vibrant city with a rich history and culture, which we encourage you to explore. We hope the civic welcome reception, exhibitor whisky tasting and reception and our conference dinner and ceilidh will be just an initial introduction to Glasgow hospitality. Our public evening lecture will also provide an introduction to the distinctive contribution that Scots and Scotland have made to the development of science and engineering. Beyond Glasgow lies Scotland, a beautiful country with a fascinating history and stunning landscapes which those with more time will be able to fully appreciate.

We are grateful to the Lord Provost, Glasgow City Council and the Glasgow Convention Bureau for their welcome and support of this meeting. Finally, we would like to express our appreciation to the European Society for Applied Superconductivity, the sponsoring body for the EUCAS conference and to our professional conference organisers, SAS Event Management, without whom we would not have been able to deliver what we are sure will be a memorable week.



John Durrell
University of Cambridge



Robert Hadfield
University of Glasgow



CONFERENCE APP

Download the EUCAS 2019 conference app for free from the Google Play Store (android) or App Store (IOS).

1. Search for "EUCAS 2019"
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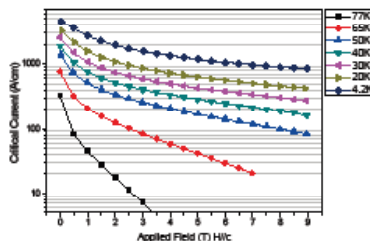


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The European Society for Applied Superconductivity was founded on September 4, 1998 in Frankfurt, Germany. ESAS brings together scientists and engineers working in applied superconductivity across both industry and academia in Europe. The Society most notably assigns and monitors the organization of EUCAS but is also involved in a growing range of other activities aiming at promoting the field of applied superconductivity.

Its goals are:

- to strengthen the position of Applied Superconductivity, especially in Europe
- to represent Applied Superconductivity in social, scientific, educational, industrial and political forums
- to promote communication in the area of Applied Superconductivity.

To achieve its objectives, among other things, ESAS is:

- supporting the organization of conferences, such as the European Conference on Applied Superconductivity EUCAS
- supporting the organization of workshops and schools in the area of Applied Superconductivity
- supporting European research proposals and projects in the area of Applied Superconductivity
- Supporting the participation of young scientists in workshops and conferences in the area of Applied Superconductivity

ESAS is a not for profit organisation. Membership is open for everybody active in the field of Applied Superconductivity. For more information on how to become member, please refer to the membership section of www.esas.org.



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- 4K Cryocoolers for helium liquefiers, superconducting magnets and single-photon detectors
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- In addition, SHI designs and manufactures 10K Cryocoolers, Helium Compressors and Cryopumps.

Sumitomo (SHI) Cryogenics of Europe Limited ("SCEL"), along with Sumitomo (SHI) Cryogenics of Europe GmbH ("SCEG"), are the European wholly owned subsidiaries of the SHI Cryogenics Group.

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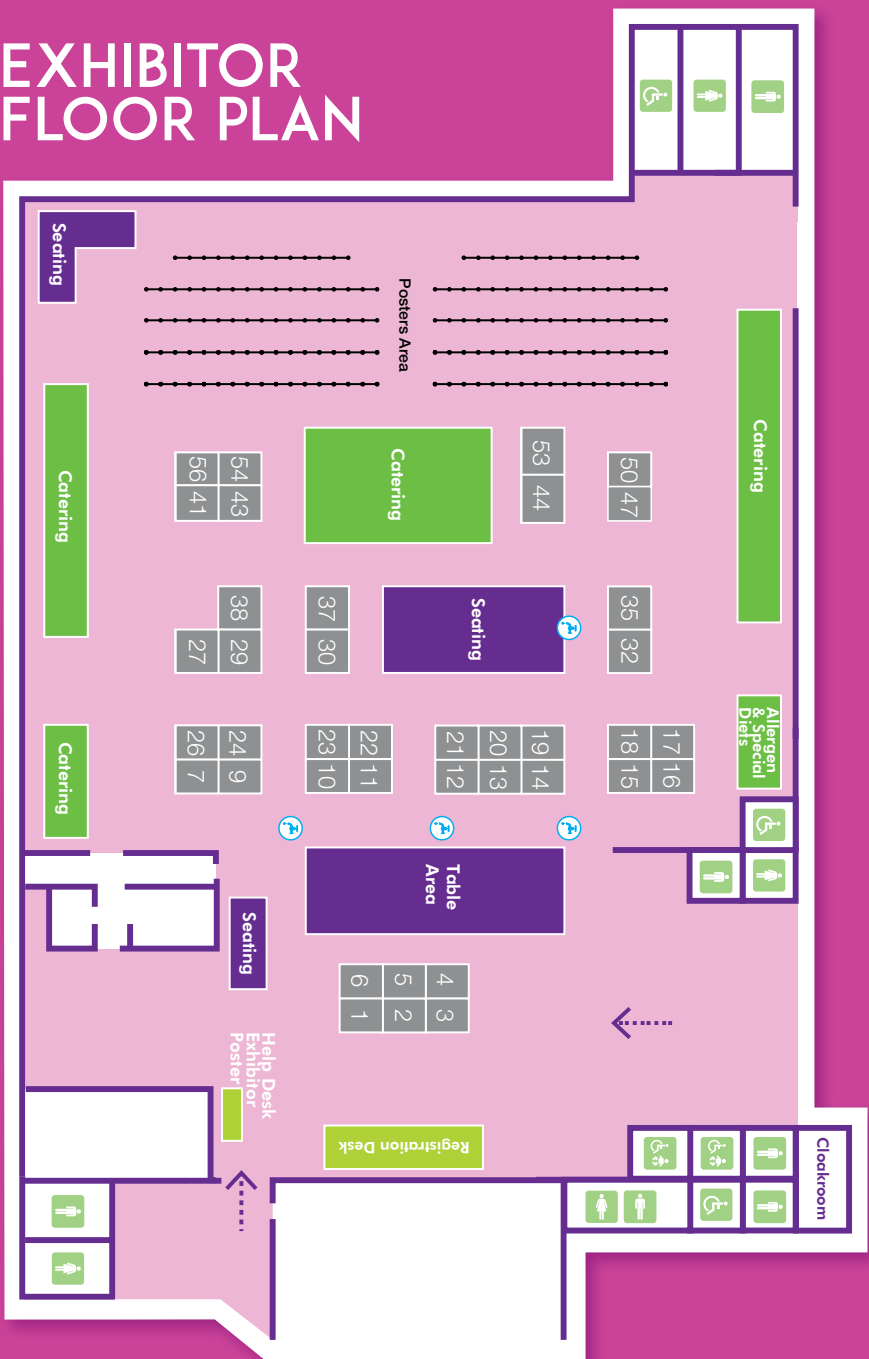
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Stand # 21
www.shstec.com

Shanghai Superconductor Technology

Shanghai Superconductor Technology Co., Ltd. (SST) employs physical vapour deposition techniques for the mass production of cost-effective 2G-HTS conductors with superior mechanical properties and high critical current densities for all types of applications. We also provide associated products and services including magnets, coil winding machines, cryocoolers and vacuum deposition systems.



Stand # 38
www.starcryo.com

STAR Cryoelectronics LLC

STAR Cryoelectronics offers advanced LTS and HTS dc SQUID sensors, high-performance PC-based SQUID readout electronics (pcSQUID™), the popular Mr. SQUID® Educational Demonstration System, custom LTS and HTS thin-film fabrication services, custom cryocables, cryogen-free ADR cryostats, TES microcalorimeter and STJ detectors, and turn-key spectrometers for X-ray microanalysis and synchrotron beamlines.

KISWIRE ADVANCED TECHNOLOGY (KAT)
www.kiswire.com

**INNOVATIVE
POWERFUL
FUTURISTIC**

Kiswire Advanced Technology Ltd. (KAT) is a sole superconducting wire manufacturer in Korea. We are making a constant effort to become the best company in superconducting business field.

SUPERCONDUCTING WIRE

- Nb₃Sn strand for particle accelerator magnets
- Nb₃Sn strand for nuclear fusion (ITER, K-STAR)
- NbTi strand for MRI magnet
- Insulation technology (PVA, Glass fiber braid, Cr Plate)
- Manufacturing capacity 4 tons per month

MAGNET

- 1.5T whole body magnet
- 3.0T whole body magnet
- Zero-boil-off magnet
- Small magnet for cryogenic application

CRYOMODULE

- Cryomodule for heavy ion accelerator (HWR)
- Superconducting cavity
- High pressure helium vessel
- 2 K cryogenic system

KAT Ltd. | 223, Techno 2-ro, Yuseong-gu, Daejeon, Korea
+82. 042-933-7760~2

Stand # 44www.shicryogenics.com**Sumitomo Cryogenics of Europe Limited**

SHI Cryogenics Group, an integral part of the Precision Equipment Division of Sumitomo Heavy Industries, Ltd., is a leading worldwide provider of innovative cryogenic solutions to the medical, semiconductor, flat panel, general coating and research industries.

The Group has multiple locations to serve its customers, in addition to a worldwide network of sales and service representatives that strengthen the company's position as a cryogenic leader. With offices in Asia, Europe and the United States, it has been producing quality cryogenic equipment for over 50 years. SHI's renowned engineering departments continue to focus on the latest cryogenic technologies, including innovative cryocooler designs for superconducting applications. SHI has taken the lead on innovation by designing and manufacturing cryocoolers to cover a variety of applications, including:



- 4K Cryocoolers for helium liquefiers, superconducting magnets and single-photon detectors
- Pulse Tube Cryocoolers for ultra-low temperature systems, SQUIDs and low-vibration applications
- Specialty and Single-Stage Cryocoolers for high temperature superconductivity, liquid nitrogen generators and wind turbines
- In addition, SHI designs and manufactures 10K Cryocoolers, Helium Compressors and Cryopumps.

Sumitomo (SHI) Cryogenics of Europe Limited ("SCEL"), along with Sumitomo (SHI) Cryogenics of Europe GmbH ("SCEG"), are the European wholly owned subsidiaries of the SHI Cryogenics Group.

Stand # 32global-sei.com/super**Sumitomo Electric Industries Ltd.**

DI-BSCCO is the trade mark of Sumitomo Electric Industries (SEI). Using DI-BSCCO, researchers and manufactures from around the world have successfully manufactured superconducting cables, magnets, motors and current leads. SEI developed Type HT-NX, an extra high strength DI-BSCCO, superconductor design that is surpassing other HTS wires for high field magnet.



Stand # 4

www.i-sunam.com

**SuNAM Co., Ltd.**

SuNAM manufactures highly energy efficient and cost effective second-generation superconducting (2G HTS) wires and high field superconducting magnets. SuNAM's 2G HTS wires show minimum I_c of 200 A per 4 mm width @ 77 K, self field. High performance superconducting cables, motors, magnets and fault current limiters can be fabricated by SuNAM's 2G HTS wire.

Stand # 6

www.supercon-wire.com

**Supercon, Inc.**

SUPERCON has been manufacturing low temperature NbTi and Nb₃Sn superconductors as standard and specially designed wire and cable since 1962. Many of Supercon's standard conductors, from 0.025 to 2.0mm diameter, are available from stock. A wide variety of custom composite metal wires is also available. We can deliver research quantities to OEM requirements from stock.

Stand # 27

www.superox.ru

**SuperOx**

SUPEROX – SUPERCONDUCTOR TO THE FUTURE OF THE NEW ELECTRIC POWER INDUSTRY ARCHITECTURE.

Due to unique electric and physical properties of high temperature superconductors, the application of 2G HTS tapes results in unique and superior qualities of power cables, fault current limiters, transformers, motors, generators, energy storage systems and magnets.

Stand # 43

www.superpower-inc.com

**SuperPower Inc/Furukawa Electric**

SuperPower Inc. is a developer and manufacturer of REBCO-based high temperature superconducting (HTS) wires that provide a variety of advantages over conventional electrical conductors. Established in 2000, SuperPower is a subsidiary of Furukawa Electric Co., Ltd. Our mission is to be a world-leading supplier of high-performance HTS

Stand # 18www.samri.org.cn**Suzhou Advanced Materials Research Institute**

Suzhou Advanced Materials Research Institute Co.,Ltd (SAMRI) was co-established by Jiangsu Etern Group Corporation stock code 600105, SH), China-Singapore Suzhou Industrial Park Venture Capital Co., LTD., and superconducting material expertise from abroad in 2011 with an innovated cooperation mode and managing concept. As a world leading 2G HTS wire developing and manufacturing company— SAMRI, together with Etern Group's other two subsidiaries Eastern Superconducting technology (Suzhou) Co., LTD and East China Superconducting Test (Jiangsu) Co., LTD., form the only superconducting cluster of the industrial value chain in China. The superconducting industry of yongding group is based in the beautiful city - Wujiang Suzhou, covering an area of 50,000 □ with a total investment of nearly 500 million RMB.

Stand # 7www.tn-sanso.co.jp**TAIYO NIPPON SANISO Corporation**

Taiyo Nippon Sanso is one of the largest industrial gas company as well as Turbo Brayton refrigerator "NeoKelvin-Turbo" manufacturer, supplying its system to cool High Temperature Superconducting applications. "NeoKelvin-Turbo" provides easy operation, installation and maintenance with its cooling capacity of 10kW for commercial scale and 2kW for demonstration scale

Stand # 11www.tesla.co.uk**Tesla Engineering Ltd**

Tesla Engineering Ltd. was founded 45 years ago to supply magnets for particle accelerators. Today, the Tesla group of companies has factories in the UK, the USA, and the Netherlands. The group has combined expertise in magnetics, composites, and precision manufacturing, and serves a wide range of well-known customers in national and international laboratories.



Stand # 9

www.THEVA.com

THEVA Dünnschichttechnik GmbH

THEVA has invested over fifteen years in development to build Germany's first commercial 2G HTS production plant. Thanks to its very high energy density, THEVA Pro-Line superconductor can replace conventional copper cable in high-performance applications. It opens entirely new scope for the design of electrical components. Manufacturers of cables, power switches, large electric drives and power rails can rely on the high quality and performance of the material. THEVA stands for high-end solutions in coating technology and equipment engineering.

Stand # 56

www.weka-ag.ch

**WEKA AG**

WEKA is one of the global leaders in developing and manufacturing of instruments for liquid level measurement, cryogenic components and highly sophisticated valves with more than 40 years of experience. WEKA cryogenic components provide optimal and reliable solutions for handling low temperature liquefied gases under extreme conditions.

Stand # 53

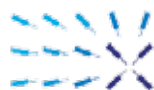
www.c-wst.com

**Western Superconducting Technologies Co., Ltd**

WST was founded in China for developing large scale production of NbTi and Nb₃Sn superconducting wire for ITER In 2003. Currently, WST has already built an advanced level production line of superconducting wires with annual production capacity of 350 ton superconducting wire and 400 ton WIC superconducting conductor.

Stand # 15

www.zhinst.com

**Zurich Instruments AG**

Zurich Instruments is a manufacturer of test & measurement equipment for advanced research & development applications. The instruments use LabOne® control software that sets a benchmark for efficient instrumentation control and a good user experience. This progressive approach reduces the complexity of laboratory setups, removes sources of problems and supports new measurement strategies that accelerate the progress of research. Zurich Instruments' portfolio comprises lock-in amplifiers, arbitrary waveform generators, impedance analyzers, quantum computing control systems, phase-locked loops and boxcar averagers.

AWARDS

Awards will be presented during EUCAS 2019 as follows:

ESAS Award for Excellence in Applied Superconductivity:	Tuesday 3 September 2019 from 0845 in the Clyde Auditorium.
2019 ESAS Awards for Young Researchers:	Thursday 5 September from 1145 in the Clyde Auditorium.
The Jan Evetts SUST Award:	Wednesday 4 September 2019 from 0845 in the Clyde Auditorium.

ESAS AWARDS

ESAS Award for Excellence in Applied Superconductivity

The ESAS Award for Excellence in Applied Superconductivity to recognize excellence in advancing the knowledge of applied superconductivity over the past five years is awarded to Prof Dr Yanwei Ma, Institute of Electrical Engineering, Chinese Academy of Sciences, China.

The 2019 ESAS Award for Excellence in Applied Superconductivity will be bestowed to Prof. Dr. Yanwei Ma from the Institute of Electrical Engineering, Chinese Academy of Sciences in Beijing to acknowledge his outstanding contributions to the development of superconductive wires with potentially very high impact for applications. Based on key fundamental insight and understanding of superconducting properties of materials and envisioning their potential, he designed the required, often novel, technologies for their processing. Outstanding in recent years are the innovative concepts developed for the processing and manufacture of Fe-based superconductors, with their robustness to high magnetic fields and their small electromagnetic anisotropy. Upon tailoring appropriate powder-in-tube processing technologies, wires could be processed with in-field critical currents exceeding the widely accepted threshold for practical application, reaching new milestones.

2019 ESAS Awards for Young Researchers

The European Society for Applied Superconductivity (www.esas.org) awards three prizes (500 EUR each) biannually to researchers under the age of 30 for outstanding work presented in person by poster or oral during the EUCAS conference. One prize is awarded in the subject areas of electronics, large-scale applications and materials, corresponding to the main technical symposia of EUCAS.

The main criteria for the award of these prizes are the originality of the work and the general quality of the poster or oral presentation. Each prize-winner receives a printed certificate and a monetary award.

The Jan Evetts SuST Award

In 2017, the 30th Anniversary of Superconductor Science and Technology (SuST) was marked by the launch of the Jan Evetts Award for the best paper published in SuST by a young researcher. The award is in fond memory of the SuST founding Editor, Professor Jan Evetts. Jan made an outstanding series of contributions to the science of superconductivity and to the understanding of superconducting materials, and was an indefatigable champion of the development of applications of superconductivity.

Now in its third year, the award aims to continue Jan's legacy of building a strong and collaborative community in superconductivity, by celebrating burgeoning new minds in the field. The award and prizes will be presented on Wednesday 4th September at EUCAS 2019.

- 1st Prize: Registration for EUCAS, free Open Access for next paper submitted to SUST, certificate, SUST print issue, and a cash prize of £500.
- 2nd Prize: Registration for EUCAS, free Open Access for next paper submitted to SUST, certificate, and SUST print issue.
- 3rd Prize: Free Open Access for next paper submitted to SUST, certificate, and SUST print issue.

SuST will be welcoming new submissions for the next award after EUCAS 2019. Please note that the submission window for the Jan Evetts Award 2020 will be 16th September 2019 – 30th March 2020.

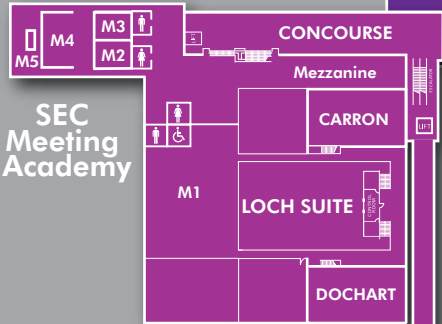
SuST/IOP Publishing Best Student Poster Prize

Superconductor Science and Technology is keen to support the development of excellent young scientists. They, in conjunction with Institute of Physics Publishing, have generously agreed to sponsor, in each poster session, a best student poster prize consisting of a certificate and a cash award of £125. The winner will be chosen by a committee consisting of members of the SUST editorial board. Winners will be notified during the poster session and announced during the closing ceremony.

HALL 3

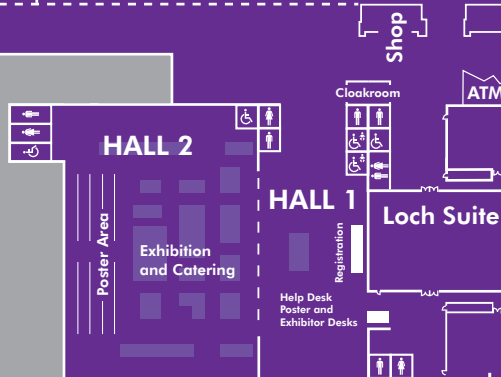
HALL 4

SEC Centre Ground Floor



SEC First Floor

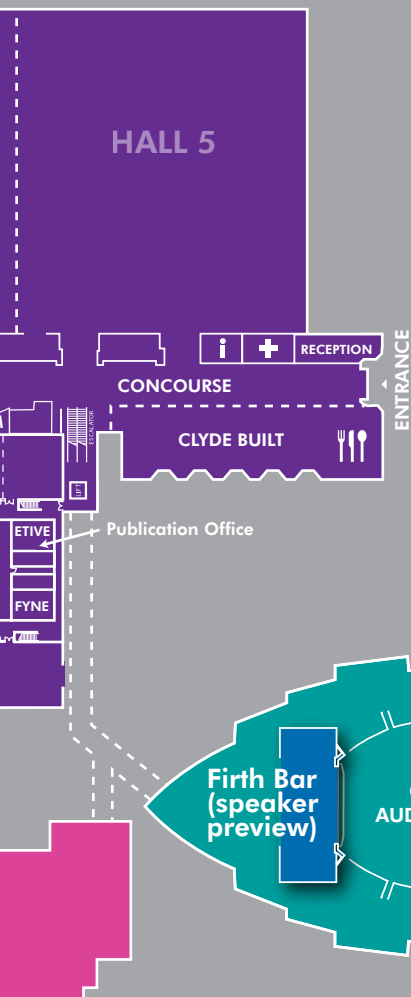
Link Corridor to
Armadillo and
Crown Plaza Hotel



Crown Plaza
Hotel

Millennium Bridge

Glasgow Science Centre



SEC Main building:

FIRST FLOOR

Carron, Dochart (Loch Suite)
M2, M3, M4, M5 (Meeting Academy)

GROUND FLOOR

Etive (Publication Office)
Halls 1 & 2

Armadillo:

FIRST FLOOR

Firth Bar (speaker preview)
Gala

GROUND FLOOR

Clyde Auditorium
Forth

SEC Armadillo

SEC SITE PLAN

THE WORLD'S LARGEST

4 PT430

2W @ 4.2K with 50W @ 40K

PT830

22W @ 30K with 1.32W @ 50K

AL320

100W @ 20K or 200W @ 10K

AL500

500W @ 50K

Cryomech offers the largest selection of Gifford-McMahon Cycle and Pulse Tube Cryocoolers available anywhere on the planet. Not only are they superior in variety, the product lines also include the largest Cryocoolers commercially available anywhere.

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**The
ORIGINAL
INNOVATORS**

PROGRAMME AT A GLANCE

SUNDAY 1 SEPTEMBER					
		Meeting Academy (MA)			
	Halls 1 & 2	M4	M3	M2	M5
08:00 - 09:30					
09:30 - 10:00	Registration				
10:00 - 13:00		Short Course 3	Short Course 1	Short Course 2	
13:00 - 16:00					
16:00 - 17:00		ESAS Board Meeting			
17:00 - 17.30				EUCAS 2019 Organising Committee Meeting	
17:30 - 18:00					
18:00 - 20:00	Civic Welcome Reception (Glasgow Science Centre)				

MONDAY 2 SEPTEMBER							
		Armadillo			Loch Suite		MA
	Halls 1 & 2	Clyde	Forth	Gala	Carron	Dochart	M2+M3
08:00 - 08:45	Registration						
08:45 - 09:00		Welcome					
09:00 - 10:00		K1: Ian Chapman					
10:00 - 10:45	Tea						
10:45 - 12:45	Poster set up	1-EO-AJ Applications of Josephson Junctions & SQUIDS	1-MO-CS Coated Conductor Synthesis	1-MO-MP Materials Properties	1-LO-CA Cables	1-LO-FL Fusion (LTS)	
12:45 - 14:00	Lunch						SuST Meeting
14:00 - 16:00	Poster Session 1						
							Tea
16:00 - 16.15							
16:15 - 18:15		1-EO-NW Nanowire Detectors	1-MO-SCC Industrial Developments in Coated Conductors SPECIAL SESSION	1-MO-BK1 Bulk Materials 1	1-LO-SFC Superconducting FCL	1-LO-AM1 Accelerator Magnets	1-MO-N3T Nb3Sn
18:15 - 20:00	Exhibitor Reception & Whisky Tasting (Hall 2)						
						Materials	
						Large Scale	
						Electronics	

TUESDAY 3 SEPTEMBER

		Armadillo			Loch Suite		MA
	Halls 1 & 2	Clyde	Forth	Gala	Carron	Dochart	M2+M3
08:00 - 08:45	Registration						
08:45 - 09:00		ESAS Award					
09:00 - 10:00		P1: Yanwei Ma (ESAS Award Winner)					
10:00 - 10:45	Tea		2-MO-FI Fe-based Thin Films	2-MO-FP1 Critical Current & Flux Pinning 1	2-LO-RM Rotating Machines	2-LO-OM Specialised Magnets	
10:45 - 12:45	Poster set up	2-EO-DE1 Digital Electronics 1					
12:45 - 14:00	Lunch						IEC-IEEE Meeting
14:00 - 16:00	Poster Session 2						
							Tea
16:00 - 16:15							
16:15 - 18:15		2-EO-QT Quantum Technologies SPECIAL SESSION	2-MO-CP Coated Conductors - Properties	2-MO-AP Broad Studies for Applications	2-LO-EA Electric Aircraft SPECIAL SESSION	2-LO-FH Fusion (HTS)	2-EO-DA Detector Applications
18:15 - 18:30							
18:30 - 20:00	Public Lecture - James Watt and Precision Engineering Prof John Marsh, University of Glasgow (Clyde Auditorium)						
						Materials	
						Large Scale	
						Electronics	

THURSDAY 5 SEPTEMBER								
		Armadillo			Loch Suite		MA	
	Halls 1 & 2	Clyde	Forth	Gala	Carron	Dochart	M2+M3	
08:00 - 09:00	Registration							
09:00 - 10:00		P3: Irfan Siddiqi						
10:00 - 10:45	Tea							
10:45 - 11:45	P4: Amalia Ballarino							
11:45 - 12:45	ESAS Gen Assy							
	ESAS Prizes							
12:45 - 13:00	Close							
13:00 - 14:00	Lunch							
14:00 - 18:15					IEC/TC90-WG3 Meeting		CIGRE Working Group Meeting D1.64	ESAS Board Meeting
					IEC/TC90-WG12 Meeting			

INFORMATION FOR PRESENTERS AND MODERATORS

Information for Oral Presentations

Speaker Preview and Upload Room

Location: Firth Bar, Level 1 in the Armadillo.

Opening Hours: Presentation upload and check.

Sunday 1 September 2019:	1400 - 1800
Monday 2 September 2019:	0730 - 1800
Tuesday 3 September 2019:	0730 - 1800
Wednesday 4 September 2019:	0730 - 1800
Thursday 5 September 2019:	0730 - 1200

Instructions for Speakers

Presentations will be given using the computers provided by the Conference. Presenters' personal computers cannot be used.

All oral presenters are requested to upload their presentation at the Speaker Preview and Upload Room preferably half a day before their session.

Presentations must be brought on an empty USB stick in PowerPoint or PDF format. The screen ratio is 16:9. A basic audio, video and running check of the presentation will be performed at this time.

All session rooms are equipped with a projector, Windows computer and PowerPoint 365, microphones, laser pointer, timer and screen.

Conference organisers will ensure that all talks are deleted from the session computers at the end of the day.

Timing

Standard Talks are 15 min long. Please ensure that you leave 2 – 3 min for questions. The exact timing of your talk has been confirmed to you by email.

Invited Talks are 30 min long. Please ensure that you leave 5 minutes for questions.

Plenary Talks are 50 min long.

The session order is fixed. Oral presentations will not be changed to accommodate absences or cancellations. The time assigned to an oral presentation within the oral session is fixed.

Please arrive a 10 minutes prior to the session and introduce yourself to the session chairs.

NB: A paper will not be considered for publication in the Journal of Physics: Conference Series (JPCS) if the presentation was not given during its scheduled time at the Conference.

If you need to withdraw your presentation, please advise the staff at the Publication Office.

To avoid disruption, no photography or video recording of presentations is permitted.

Information for Poster Presenters

Poster Sessions

Each poster board will accommodate 1 (one) A0 (1189mm x 841mm) in either horizontal or vertical format.

Poster presenters must hang their posters prior to the session. Presenters may bring hand outs and make them available on the poster board.

Only papers that are presented at EUCAS 2019 may be considered for publication in the Journal of Physics: Conference Series (JPCS). For posters, this means that the author must be present during the session and available for discussion. Attendance will be verified by the session chairs. If an author cannot be located, the paper written from this poster will NOT be considered for publication in the JPCS.

If you have more than one poster and they are not side by side, then you need to spread your time over all poster presentations. Please leave a note (post-it notes are available at the Poster Desk) on your poster indicating the location and time you will be present. Please also inform the session chairs.

If you need to withdraw your poster, please inform the Poster Desk and the Publication Office.

Poster Desk

The Poster Desk is in Hall 1. Please go to the desk to pick up the materials to hang your poster. These are the set-up times for each day:

Monday 2 September 2019: 1045 - 1245
Tuesday 3 September 2019: 1045 - 1245
Wednesday 4 September 2019: 1045 - 1245

Please check the poster plan at the Poster Desk for your poster location.

You are requested to remove posters at the end of each day (between 1815-1900). Any posters not taken down at the end of the day will be discarded. EUCAS 2019 holds no responsibility for any material left behind, lost, stolen or damaged.

Information for Session Chairs

Oral Sessions

Please ensure that you have a Moderator Session Report prior to starting the session. The Report will be with your student helper in your room.

If a scheduled presentation has no-show presenters and the presentation has to be cancelled (ie was not given), the corresponding manuscript, if submitted, will not be considered for peer review and published in the JPCS. So, filling and returning the Moderator Session Report is important.

If a presentation is not given, ie the presenter does not show up, please do NOT start the next talk early.

Prior to the Session

- Check in with your student helper and get the Session Moderator Report
- Check with your technician that all presentations have been submitted
- Check to see that all speakers are present
- Familiarise yourself with the timer and other controls (light, if provided etc). If there are issues, please advise the technician and/or student helper.

Sessions

- Announce the title of the session.
- Explain the ground rules: Invited Talk = 25 min + 5 min questions.
Standard Talk = 12 + 3 min questions.
- Please introduce each speaker and title of the talk
- Please keep control of the session timing! Be firm as needed and use the timers to help you.
- Talks may encroach on question time. Please use your discretion and indicate that questions can be asked following the session.
- Please complete and return the Moderator Session Report to the Publication Office. Check off presentations as they are given. Also estimate the audience size.
- The two session chairs can alternate these tasks.
- Do not let anyone walk away with the laser pointer!
- Nominate an outstanding Contributed Presentation in the session for an invitation to submit a paper to the Special Focus Issue of Superconductor Science and Technology. (Invited Presentations have already received such an invite).

Poster Sessions

Please ensure that you have a Moderator Session Report prior to starting the session. You can pick them up at the Publication Office.

It is not necessary to introduce the speakers or presentations. Please record any posters that were not presented. One of the authors must be present most, if not all of the time, with the poster presentation. Walk the session multiple times. Note that in some cases, an author may need to attend to more than one poster, and thus might not be present during your first survey, so that you may have to return later. Poster presenters have been instructed to inform you or leave a note, when this is the case. Posters that are mounted but missing a presenter or poster boards that are empty must be recorded on the Moderator Report.

Please hand in your Moderator Report to the Publication Office following your session or no later than Thursday 5 September 2019 at 1200 (midday).

PROGRAMME IN DETAIL



EUCAS 2019
GLASGOW





EUCAS 2019
GLASGOW

SUNDAY 1 SEPTEMBER



SUNDAY 1 SEPTEMBER

0930-1800	Registration	HALL 1
1000-1730	Short Course 1: Design of Superconducting magnets for particle accelerators and detectors Dr Paolo Ferracin, CERN, Switzerland; Prof Herman Ten Kate, University of Twente, Netherlands <i>Pre-registration required</i>	M3
1000-1730	Course 2: Superconducting Power Devices Dr Mark Ainslie, University of Cambridge, UK; Prof Antonio Morandi, University of Bologna, Italy; Prof Mathias Noe, Karlsruhe Institute of Technology (KIT), Germany <i>Pre-registration required</i>	M2
1000-1300	Course 3: Superconducting Electronics and Quantum Computation Prof Paul Seidel, Friedrich Schiller University Jena, Germany <i>Pre-registration required</i>	M4
1800-2000	Civic Welcome Reception at Glasgow Science Centre Civic reception hosted by The Rt Hon The Lord Provost of Glasgow	



EUCAS 2019
GLASGOW

MONDAY 2 SEPTEMBER



MONDAY 2 SEPTEMBER

0845-0900	Welcome Co-chairs: John Durrell, University of Cambridge and Robert Hadfield, University of Glasgow Lord Provost of Glasgow	
0900-1000	1-LO-KN1 Keynote Address CCFE, Fusion: Now and in the Future <u>Ian Chapman</u> UK Atomic Energy Authority and Culham Centre for Fusion Energy, United Kingdom	CLYDE AUDITORIUM
1000-1045	Refreshments & Exhibition	HALLS 1 & 2
1045-1245	Oral Session 1	
1245-1400	Lunch	HALLS 1 & 2
1400-1600	Poster Session 1	HALL 2, POSTER AREA
1530-1615	Refreshments & Exhibition	HALLS 1 & 2
1615-1815	Oral Session 2	
1815-2000	Exhibitor Reception & Whisky Tasting	HALLS 1 & 2

MONDAY 2 SEPTEMBER

0845-0900 **Welcome**

Co-chairs: John Durrell, University of Cambridge and Robert Hadfield,
University of Glasgow
Lord Provost of Glasgow

0900-1000 **1-LO-KN1 Keynote Address**

CLYDE AUDITORIUM

Chairs: John Durrell, University of Cambridge
and Robert Hadfield, University of Glasgow

CCFE, Fusion: Now and in the Future

Ian Chapman

CEO of the UK Atomic Energy Authority and Head of the Culham Centre for
Fusion Energy



Ian Chapman has held a number of international roles in fusion, including Chair of ITER international working groups. He has published over 110 journal papers, one of which was shortlisted for the Nuclear Fusion Award in 2013, and given 30 invited lead-author presentations at international conferences. He received the European Physical Society Early Career Prize in 2014, the Institute of Physics Paterson Medal in 2013, the IUPAP Plasma Physics Young Scientist Prize in 2012 and the Cavendish Medal for Best early-career UK physicist in 2011. He was made a Fellow of the Institute of Physics in 2013 and became a visiting Professor at Durham University in 2015. In 2019, he was awarded the Royal Society Kavli Medal & Lecture.

1000-1045 **Refreshments & Exhibition**

HALLS 1 & 2

Oral Session 1

1045-1245

1045-1245 **1-EO-AJ - Applications of Josephson Junctions and SQUIDS**

ROOM: CLYDE AUDITORIUM

Chairs: Ed Romans, UCL and Niladri Banerjee, Loughborough University

1045

1-EO-AJ-011

Addressable quantum circuits with array of Josephson field effect transistors

Kaveh Delfanazari¹, Pengcheng Ma¹, Ian Farrer², David A. Ritchie¹,
Hannah J. Joyce¹, Michael J. Kelly¹, Charles G. Smith¹

¹University of Cambridge, United Kingdom

²University of Cambridge, University of Sheffield, United Kingdom

1115

1-EO-AJ-02S**Identifying and Eliminating Interference in Josephson Digital Electronics**Aaron Lee¹, John Przybysz¹, Aaron Pesetski¹, Anthony Przybysz¹¹Northrop Grumman, United States of America

1130

1-EO-AJ-03S**High-Tc SQUID magnetometers for multi-channel on-scalp MEG**Silvia Ruffieux¹, Christoph Pfeiffer², Maxim Chukharkin³, Minshu Xie², Alexei Kalaboukhov², Justin F. Schneiderman⁴, Dag Winkler²¹Chalmers University of Technology, Sweden²Department of Microtechnology and Nanoscience – MC2, Chalmers University of Technology, Sweden³Chalmers Industriteknik, Sweden⁴MedTech West and the Institute of Neuroscience and Physiology, Sahlgrenska Academy, University of Gothenburg, Sweden

1145

1-EO-AJ-04S**Fast, Ultrasensitive Differential Magnetic DNA Assay Using HTS SQUID Gradiometer**Sobhan Sepehri¹, Alexei Kalaboukhov¹, Teresa Zardán Gómez de la Torre², Justin F. Schneiderman³, Aldo Jesorka⁴, Mats Nilsson⁵, Jan Albert⁶, Maria Strømme⁷, Christer Johansson⁸, Dag Winkler¹¹Department of Microtechnology and Nanoscience - MC2, Chalmers University of Technology, Sweden²Department of Engineering Sciences, Uppsala University, The Ångström Laboratory, Sweden³Department of Microtechnology and Nanoscience – MC2, Chalmers University of Technology, MedTech West and the Institute of Neuroscience and Physiology, University of Gothenburg, Sweden⁴Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Sweden⁵Science for Life Laboratory, Department of Biochemistry and Biophysics, Stockholm University, Sweden⁶Department of Clinical Microbiology, Karolinska University Hospital, Department of Microbiology, Tumor and Cell Biology, Karolinska Institute, Sweden⁷Department of Engineering Sciences, Uppsala University, The Ångström Laboratory, Sweden⁸RISE Acreo, Sweden

1200

1-EO-AJ-05S**Effect of SQUID loop coupling on SQIF array sensitivity**Emma Mitchell¹, Karl Muller¹, Joern Beyer², Wendy Purches¹, Colin Pegrum³, Shane Keenan¹, Chris Lewis¹, Alex Grancea¹, Philip Fairman¹, Jeina Lazar¹, Cathy Foley¹¹CSIRO Manufacturing, Australia²Department 7.6 Cryosensors, Physikalisch-Technische Bundesanstalt, Germany³Department of Physics, University of Strathclyde, United Kingdom

- 1215 **1-EO-AJ-06S**
High Tc SQIF for highly-sensitive microwave magnetometry
Francois Couedo¹, Eliana Recoba Pawlowski², Julien Kermorvant³, Juan Trastoy², Denis Crété², Yves Lemaitre², Bruno Marcilhac², Christian Ulysse⁴, Cheryl Feuillet-Palma¹, Nicolas Bergeal¹, Jerome Lesueur¹
¹Physics and Materials Laboratory (LPEM), ESPCI, PSL, UMPC, CNRS, France
²Unité Mixte de Physique CNRS, Thales, Université Paris-Sud, University Paris-Saclay, France
³Thales Communication and Security, France
⁴Center of Nanosciences and Nanotechnologies, University Paris-Sud - University Paris-Saclay - CNRS, France
- 1230 **1-EO-AJ-07S**
Highly scalable readout electronics for large multi-channel dc-SQUID systems
Sylke Bechstein¹, Dietmar Drung¹, Marius Scheiner², Frank Petsche¹, Sassan Ali Valiollahi³, Henry Barthelmeß³
¹Physikalisch-Technische Bundesanstalt, Germany
²Institut für angewandte Photonik e.V., Germany
³Magnicon GmbH, Germany
- | | | |
|---|--|-------------|
| 1045-1245 | 1-MO-CS - Coated Conductors - Synthesis | ROOM: FORTH |
| Chairs: Teresa Puig, ICMAB-CSIC and Bernhard Holzapfel, Karlsruhe Institute of Technology | | |
- 1045 **1-MO-CS-01I**
Progress in development of high-performance REBCO tapes and wires
Venkat Selvamamickam¹
¹University of Houston, United States of America
- 1115 **1-MO-CS-02I**
Can we reach fast growth methods for Coated Conductors at competitive cost?
Teresa Puig¹
¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain
- 1145 **1-MO-CS-03S**
Fabrication of 1 meter long multi-layered conductor for high Je
Hongsoo Ha¹, Gwantaek Kim¹, HyunWoo Noh¹, Sangsoo Oh¹, Jaehun Lee², Seunghyun Moon²
¹Korea Electrotechnology Research Institute, Korea, South
²SuNAM, South Korea

1200 **1-MO-CS-045**
One method to improve the delamination strength of the 2G HTS Tapes
Xingyi Zhang¹
¹Lanzhou University, China

1215 **1-MO-CS-055**
Scalable fabrication process for low AC loss striated HTS tapes
Joseph Prestigiacomo¹, Raymond Auyeung¹, Michael Osofsky¹
¹US Naval Research Laboratory, United States of America

1230 **1-MO-CS-065**
50m long multifilamentary coated conductor for high field magnets
Anders C. Wulff¹, Jesper H. Lundeman², Pernille H. Nielsen², Ulrich Betz³, Alexander Usoskin³, Alexander Rutt³, Andrea R. Insinga⁴, Asger B. Abrahamsen⁵
¹Technical University of Denmark, Department of Energy Conversion and Storage, Subra Substrates A/S, Denmark
²Subra Substrates A/S, Denmark
³Bruker HTS GmbH, Germany
⁴Technical University of Denmark, Department of Energy Conversion and Storage, Denmark
⁵Technical University of Denmark, Department of Wind Energy, Denmark

1045-1245	1-MO-MP - Materials Properties	ROOM: GALA
Chair: Andrea Augieri, ENEA		

1045 **1-MO-MP-015**
Transient dynamic resistance waveforms from isolated ReBCO coated conductors
Justin Brooks¹, Mark Ainslie², Zhenan Jiang¹, Stuart Wimbush¹, Chris Bumby¹, Rodney Badcock¹
¹Robinson Research Institute, Victoria University of Wellington, New Zealand
²Bulk Superconductivity Group, Department of Engineering, University of Cambridge, United Kingdom

1100 **1-MO-MP-025**
Frequency dependent demagnetisation rate of shielded HTS tape stack
Lukasz Tomkow¹, Nikolay Mineev¹, Anis Smara¹, Vicente Climente-Alarcon¹, Bartlomiej Glowacki¹
¹ASCG, Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom

- 1115 **1-MO-MP-035**
Simulations of the Effect of Surface Roughness and Coatings on Critical Currents
Alexander Blair¹, Damian Hampshire¹
¹Durham University, Department of Physics, Superconductivity Group, United Kingdom
- 1130 **1-MO-MP-045**
Optimization of the oxygenation process in CSD-grown REBa₂Cu₃O_{7-x} films
Pablo Cayado¹, Daniel Hauck¹, Manuela Erbe¹, Jens Hänisch¹, Bernhard Holzapfel¹
¹Karlsruhe Institute of Technology (KIT), Germany
- 1145 **1-MO-MP-055**
Critical-Current Surface Ic(T,B) of Densified Ag-Sheathed Ba_{1-x}K_xFe₂As₂ Tapes
Marco Bonura¹, He Huang², Chao Yao², Yanwei Ma², Carmine Senatore²
¹University of Geneva - Department of Quantum Matter Physics, Switzerland
²Chinese Academy of Sciences - Institute of Electrical Engineering, China
- 1200 **1-MO-MP-065**
Development of MVT-MgB₂ bulks assisted by combined defect detection & simulation
Akiyasu Yamamoto¹, Yu Sanogawa¹, Kosei Iso¹, Takuya Obara¹, Mikihiro Saito¹
¹Tokyo University of Agriculture and Technology, Japan
- 1215 **1-MO-MP-075**
2D Strain Dependent J_c for (RE)BCO Tapes in High Fields for Fusion Applications
Jack Greenwood¹, Elizabeth Surrey², Damian Hampshire¹
¹Durham University, Department of Physics, Superconductivity Group, United Kingdom
²Culham Centre for Fusion Energy, Culham Science Centre, United Kingdom
- 1230 **1-MO-MP-085**
Biaxial stress measurements in a GdBCO-Ag bulk during field-cooled magnetization
Kai Yuan (Danny) Huang¹, Dominic Barthlott², Mark Ainslie¹, Yunhua Shi¹, Jan Srpc̆ić¹, Difan Zhou³, Devendra Namburi¹, Anthony Dennis¹, Sora Namba⁴, Hiroyuki Fujishiro⁴, Martin Boll⁵, David Cardwell¹, John Durrell¹
¹Department of Engineering, University of Cambridge, United Kingdom
²Karlsruhe Institute of Technology, Institute of Technical Physics, Germany
³Department of Physics, Shanghai University, China
⁴Department of Physical Science and Materials Engineering, Faculty of Science and Engineering, Iwate University, Japan
⁵Siemens AG Corporate Technology, Germany

Chairs: Mathias Noe, Karlsruhe Institute of Technology
and Hideo Sugane, SWCC Showa Cable Systems co., Ltd.

1045

1-LO-CA-011**Progress in the development of the HTS Power Cable Projects in Korea**

Chulhyu Lee¹, Hyeongseok Yang¹, Minwon Park², Iwakuma Masataka³

¹KEPCO, Korea, South

²Changwon National University, Korea, South

³Kyushu University, Japan

1115

1-LO-CA-025**Electrical and cryogenic tests of the 1200 m HTS DC cable system**

Andrey Kashcheev¹, Victor Sytnikov¹, Timofey Ryabin¹, Victor Karpov¹,
Mikhail Dubinin¹

¹R&D Center at Federal Grid Company of Unified Energy System, Russia

1130

1-LO-CA-035**The 2nd in-grid operation of superconducting cable in Yokohama project**

Takato Masuda¹, Yuichi Ashibe¹, Takahiro Saito¹, Tadahiko Minamino¹,
Toshiya Morimura¹, Michihiko Watanabe¹, Hirohito Yamaguchi², Masayuki
Tanazawa², Tomoo Mimura²

¹Sumitomo Electric Industries, Ltd., Japan

²Tokyo Electric Power Company Holdings, Japan

1145

1-LO-CA-045**Development and test of a 35 kA - HTS CroCo cable demonstrator**

Klaus-Peter Weiss¹, Walter H. Fietz¹, Mathias Heiduk¹, Christian Lange¹, Alan
Preuss¹, Michael J. Wolf¹

¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany

1200

1-LO-CA-055**Compact 2G HTS power cable: new cold tests results**

Vitaly Vysotsky¹, Sergey Fetisov¹, Vasily Zubko¹, Sergey Zanegin¹,
Alexander Nosov¹

¹Russian Scientific R&D Cable Institute, Russia

1215

1-LO-CA-065**Superconducting Gas-insulated DC Coaxial Dipole**

Peter Cheetham¹, Chul Kim¹, Lukas Graber², Sastry Pamidi³

¹Center for Advanced Power Systems, United States of America

²Georgia Institute of Technology, United States of America

³FAMU-FSU College of Engineering, United States of America

1045-1245	1-LO-FL - Fusion (LTS)	ROOM: DOCHART
	Chairs: Antonio Della Corte, ENEA Frascati Research Centre and Joseph Minervini, Massachusetts Institute of Technology	
1045	1-LO-FL-011 The Route to the Use of Nb3Sn in ITER: Overcoming Failures and Successes <u>Neil Mitchell</u> ¹ ¹ ITER Organisation, France	
1115	1-LO-FL-021 Overview of the magnet system of the European DEMO fusion reactor <u>Kamil Sedlak</u> ¹ , et al. ² ¹ École Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC), Switzerland ² Magnet group of EUROfusion DEMO project, Various	
1130	1-LO-FL-031 The superconducting magnet system of the Italian Divertor Tokamak Test Facility Aldo Di Zenobio ¹ , <u>Luigi Muzzi</u> ¹ , Simonetta Turtù ¹ , Luigi Affinito ¹ , Alessandro Anemona ¹ , Roberto Bonifetto ² , Valentina Corato ¹ , Chiarasole Fiamozzi Zignani ¹ , Lorenzo Giannini ¹ , Giuseppe Messina ¹ , Luigi Morici ¹ , Gherardo Romanelli ¹ , Laura Savoldi ² , Andrea Zappatore ² , Roberto Zanino ² , Lorenzo Zoboli ¹ , Antonio della Corte ¹ ¹ ENEA Frascati Research Centre, Italy ² NEMO Group - Politecnico di Torino, Italy	
1145	1-LO-FL-045 Development of Toroidal Field Superconducting Prototype Magnet for CFETR <u>Jinxing Zheng</u> ¹ , Yuntao Song ¹ , Kun Lu ¹ , Xufeng Liu ¹ ¹ Institute of Plasma Physics Chinese Academy of Sciences, China	
1200	1-LO-FL-055 Quench detection of fast plasma events for the EAST PF coils <u>Yanlan Hu</u> ¹ ¹ Institute of Plasma Physics Chinese Academy of Sciences, China	
1215	1-LO-FL-065 An ANSYS-Based Model for Arcs in Large Superconducting Magnets <u>Sam Tippetts</u> ¹ , Ruben Otin ² , Heng Zhang ² , Andrew Holmes ² , Simon McIntosh ³ , Pierre Bauer ³ , Neil Mitchell ³ , Arjan Verweij ⁴ , Michal Maciejewski ⁴ , Elizabeth Surrey ² , Shanliang Zheng ³ ¹ UKAEA, ITER, United Kingdom ² UKAEA, United Kingdom ³ ITER, France ⁴ CERN, Switzerland	

1230

1-LO-FL-075**Estimation of Performance of Nb₃Sn CICC with Thermal Strain Distribution**Rainer Wesche¹, Kamil Sedlak¹, Pierluigi Bruzzone¹¹École Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC), Switzerland1245-1400 **Lunch****HALLS 1 & 2****Poster Session 1**

1400-1600

HALL 2, POSTER AREA**1-EP-EA - Electronics Applications**

Chairs: Sobhan Sepehri, Chalmers University of Technology and Sylke Bechstein, Physikalisch-Technische Bundesanstalt

1-EP-EA-I01**Simulation model extraction from superconductor circuit packaging and shielding**Coenrad Fourie¹, Kyle Jackman¹¹Stellenbosch University, South Africa**1-EP-EA-I02****Insulating, metallic and superconducting phase in single nanowires**Hannes Rotzinger¹, Jan Nicolas Voss¹, Yannick Schön¹, Micha Wildermuth¹, Alexey V Ustinov¹¹Karlsruhe Institute of Technology (KIT), Germany**1-EP-EA-I03****Hybrid superconducting-magnetoresistive sensor for low magnetic field detection**Elena Stetco¹, Ana-Cristina Davidas¹, Mircea Nasui¹, Ovidiu Pop¹, Mihai Gabor¹, Traian Petrisor Jr.¹¹Technical University of Cluj-Napoca, Romania**1-EP-EA-I04****Monolithic ICs of Josephson junctions and nTrons for large-capacity memories**Kyosuke Sano¹, Naoki Kondo¹, Masamitsu Tanaka¹, Taro Yamashita², Masumi Inoue³, Akira Fujimaki¹¹Nagoya University, Japan²Nagoya University, JST-PRESTO, Japan³Meijo University, Japan**1-EP-EA-S05****Transport properties of NdFeAs(O,F) superconducting thin wires**Takafumi Hatano¹, Yasunari Tsuji¹, Keisuke Kondo¹, Kazumasa Iida¹, Nobuyuki Zen², Yasunori Mawatari², Hiroshi Ikuta¹¹Nagoya University, Japan²National Institute of Advanced Industrial Science and Technology (AIST), Japan

1-EP-EA-S06**A Study on the system for measuring quantum frequency conversion signal**Dong Kyu Kim¹, Zae Ill Kim¹, Hyuk Yim Sin¹, Tae Hyun Kim¹, Yong Sup Ihn¹¹Agency for Defense Development, South Korea**1-EP-EA-S07****Towards Quantum Frequency Conversion between Microwave and Optical domains**Zaeill Kim¹, Dong Kyu Kim¹, Hyuk Sin Yim¹, Taehyun Kim¹, Su-Yong Lee¹¹Agency for Defense Development, South Korea**1-EP-EA-S08****Fabrication of Ti transition-edge sensors for near infrared photon counting**Zheng Wang¹, Wen Zhang¹, Pei-Zhan Li¹, Jia-Qiang Zhong¹, Yue Geng¹, Wei Miao¹, Jin-Feng Wang², Sheng-Cai Shi¹¹Purple Mountain Observatory, Chinese Academy of Sciences, China²Nanjing Institute of Astronomical Optics& Technology, Chinese Academy of Sciences, China**1-EP-EA-S09****Adiabatic logic circuits using quantum phase-slip junctions**Uday Sravan Goteti¹, Ran Cheng¹, Michael Hamilton¹¹Auburn University, United States of America**1-EP-EA-S10****Comparative analysis of highly linear response superconductor cells**Nikolay V. Kolotinskiy¹, Victor K. Kornev², Daniil E. Bazulin²¹Department of Physics, Lomonosov Moscow State University, Quantum

Technology Centre, Department of Physics, Lomonosov Moscow State University, Russia

²Department of Physics, Lomonosov Moscow State University, Russia**1-EP-EA-S11****Superconducting terahertz modulator**Biao-Bing Jin¹¹School of Electronic Science and Engineering, Nanjing University, China**1-EP-EA-S12****Characterization of NbN tunnel junction developed on Si substrate**Wei Qiu¹, Hirotaka Terai¹¹National Institute of Information and Communications Technology, Japan**1-EP-EA-S13****Tailored design of YBCO thin films and patterned arrays**Alexey V Pan¹, Antony Jones², Simon KH Lam³, Jia Du³, Igor Rudnev⁴, Sergey Rubanov⁵¹School of Physics and Institute for Superconducting & Electronic Materials, University of Wollongong, Australia²Institute for Superconducting and Electronic Materials, University of Wollongong, Australia³CSIRO Manufacturing, Australia⁴National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Russia⁵Advanced Microscopy Facility, Bio21 Institute, University of Melbourne, Australia

1-EP-JJ - Josephson Junctions

Chairs: Roberta Caruso, Università degli Studi di Napoli Federico II and Michael Faley, Forschungszentrum Juelich

1-EP-JJ-I01

Planar MgB₂ Josephson junctions and arrays made by focused helium ion beam

Ke Chen¹, Leila Kasaei¹, Mengjun Li², Thomas Melbourne¹, Hussein Hijazi², Torgny Gustafsson², Leonard Feldman², Xiaoxing Xi¹

¹Temple University, United States of America

²Rutgers University, United States of America

1-EP-JJ-I02

Circularly polarized terahertz radiation from intrinsic Josephson junctions

Ituhiro Kakeya¹, Asem Elarabi¹, Shuma Fujita¹, Keiichiro Maeda¹, Manabu Tsujimoto²

¹Kyoto University, Japan

²University of Tsukuba, Japan

1-EP-JJ-I03

RF properties of high T_c Josephson junctions made by focused He⁺ ion irradiation

François Couëdo¹, Paul Amari¹, Cheryl Feuillet-Palma¹, Nicolas Bergeal¹, Christian Ulysse², Jérôme Lesueur³

¹Physics and Materials Laboratory (LPEM), ESPCI, PSL, UMPC, CNRS, France

²Center for Nanosciences and Nanotechnologies, University Paris-Sud - University Paris-Saclay - CNRS, France

³Physics and Materials Laboratory (LPEM), ESPCI, PSL, UMPC, CNRS, Center for Nanosciences and Nanotechnologies, University Paris-Sud - University Paris-Saclay - CNRS, France

1-EP-JJ-I04

Shapiro steps as a probe of overheating in superconducting nanobridges

Connor Shelly¹, Patrick See¹, Ivan Rungger¹, Jonathan Williams¹

¹National Physical Laboratory, United Kingdom

1-EP-JJ-I05

Fabrication corner-like Josephson junctions based on pnictide single crystals

Noor Hasan¹

¹The University of Technology, Iraq

1-EP-JJ-S06

Anodization-free fabrication of cross-type Nb/Al-AlO_x/Nb Josephson junctions

Fabienne Bauer¹, Christian Enss¹, Sebastian Kempf¹

¹Kirchhoff-Institute for Physics, Heidelberg University, Germany

1-EP-JJ-S08

Control of roughness and stress of Nb film for Nb/Al-AlO_x/Nb Josephson junctions

Yu Wu¹, Liliang Ying¹, Jie Ren¹, Wanning Xu¹, Yingyi Shao¹, Liyun Chen¹, Xue Zhang¹, Xiaoping Gao¹, Wei Peng¹, Masaaki Maezawa¹, Zhen Wang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

1-EP-JJ-S09**Oscillation modes of serial Josephson-junction arrays coupled to resonator**Victor K. Kornev¹, Nikolay V. Kolotinskiy², Anna Yu. Levochkina¹¹Department of Physics, Lomonosov Moscow State University, Russia²Department of Physics, Lomonosov Moscow State University, Quantum Technology Centre, Department of Physics, Lomonosov Moscow State University, Russia**1-EP-JJ-S10****Internally shunted NbN Josephson junctions with tunable TaNx barriers**Lu Zhang¹, Zhen Wang¹¹State Key Laboratory of Functional Material for Informatics, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China**1-EP-JJ-S11****Switchable supercurrent in ferromagnetic Josephson junction**Junwen Zeng¹, Lei Chen¹¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China**1-EP-JJ-S12****Transport properties in Josephson devices with metallic nanowires**Sergey Bakurskiy¹, Olga Skryabina², Sergey Kozlov³, Nikolay Klenov⁴, Igor Soloviev⁵, Mikhail Kupriyanov⁵, Igor Golovchansky³, Aleksey Klimenko⁶, Kirill Napolskii⁷, Valeriy Ryazanov⁸, Dmitriy Roditchev⁹, Alexander Golubov¹⁰, Vasiliy Stolyarov³¹Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University

1(2), Moscow Institute of Physics and Technology, Russia

²Moscow Institute of Physics and Technology, Institute of Solid State Physics RAS, Russia³Moscow Institute of Physics and Technology, Russia⁴Faculty of Physics, M.V. Lomonosov Moscow State University, Russia⁵Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University

1(2), Russia

⁶Department of Materials Science, MSU, Russia⁷Department of Chemistry, MSU, Russia⁸Institute of Solid State Physics RAS, Russia⁹Laboratoire de Physique et d'Etudes des Matériaux, LPEM, UMR-8213, ESPCI-Paris, PSL, CNRS, Sorbonne University, France¹⁰Moscow Institute of Physics and Technology, Russian Federation, Faculty of Science and Technology and MESAP Institute for Nanotechnology, University of Twente, The Netherlands, The Netherlands

1-EP-JJ-S13

Low-frequency Electrodynamical Parameters of Spin-Filter Josephson Junctions

Halima Giovanna Ahmad¹, Davide Massarotti², Roberta Caruso³, Gabriele Campagnano⁴, Procolo Lucignano⁴, Avradeep Pal⁵, Giovanni Piero Pepe¹, Mark Blamire⁵, Francesco Tafuri⁶

¹Università degli Studi di Napoli "Federico II" - Dipartimento di Fisica "Ettore Pancini", Consiglio Nazionale delle Ricerche - CNR-SPIN, Italy

²Consiglio Nazionale delle Ricerche - CNR-SPIN, Università di Napoli "Federico II" - Dipartimento di Ingegneria Elettrica e delle Tecnologie dell'Informazione, Italy

³SeeQC.EU, s.r.l., Consiglio Nazionale delle Ricerche - CNR-SPIN, Università degli Studi di Napoli "Federico II" - Dipartimento di Fisica "Ettore Pancini", Italy

⁴Consiglio Nazionale delle Ricerche - CNR-SPIN, Italy

⁵Department of Materials Science and Metallurgy - University of Cambridge, United Kingdom

⁶Consiglio Nazionale delle Ricerche - CNR-SPIN, Università degli Studi di Napoli "Federico II" - Dipartimento di Fisica "Ettore Pancini", Italy

1-EP-JJ-S14

An Initial Analysis for Thermally Enabled Models in JoSIM

Bernard Venter¹, Johannes Delpoort¹, Coenrad Fourie¹

¹Stellenbosch University, South Africa

1-EP-JJ-S15

Josephson junction simulation model extraction from measured IV curves

Johannes Delpoort¹, Coenrad Fourie¹

¹Stellenbosch University, South Africa

1-EP-JJ-S16

Analysis of systematic errors in a Josephson Arbitrary Waveform Synthesizer

Marco Kraus¹, Oliver Kieler¹, Ralf Behr¹, Jonas Herick¹, Stephan Bauer¹, Luis Palafox¹, Franz Josef Ahlers¹

¹PTB, Germany

1-EP-JJ-S17

2D model of an inductively interacting inhomogeneous Josephson junction stack

Alexander Grib¹, Paul Seidel²

¹Kharkiv V. N. Karazin National University, Ukraine

²Institut für Festkörperphysik, Friedrich Schiller University Jena, Germany

1-EP-JJ-S18

Processing and Characterization of High Current Density NbN Josephson Junctions

Huiwu Wang¹, Xin Tang², Qiyu Zhang¹, Zhen Wang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

1-EP-JJ-S19**Self-shunted MoRe-doped Si-MoRe junctions with a low specific capacitance**Volodymyr Shaternik¹, Andrii Shapovalov², Pascal Febvre³, Frank Schmidl⁴, Paul Seidel⁵¹Institute for Metal Physics Kiev, Ukraine²Institute for Superhard Materials Kiev, Ukraine³Université Savoie Mont Blanc, France⁴Friedrich Schiller University Jena, Germany⁵Institut für Festkörperlphysik, Friedrich Schiller University Jena, Germany**1-EP-JJ-S20****Perpendicular magnetic field dependence of the Josephson current**Norimichi Watanabe¹, Asuka Natori¹, Chun-Ping Chen¹, Susumu Abe¹, Akiyoshi Nakayama¹¹Kanagawa University, Japan**1-EP-SP - Single Photon Detectors**

Chairs: Dmitry Morozov, University of Glasgow and Shigehito Miki, NICT

1-EP-SP-I01**Ultra-broadband microfiber-coupled superconducting single-photon detector**Xintong Hou¹, Ni Yao², Lixing You³, Hao Li³, Weijun Zhang³¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, Zhejiang University, University of Chinese Academy of Sciences, China²Zhejiang University, China³Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, University of Chinese Academy of Sciences, China**1-EP-SP-I02****Optimising superconducting nanowire single-photon detectors for the mid-infrared**Gregor Taylor¹, Dmitry Morozov¹, Kleanthis Erotokritou¹, Shigehito Miki², Hirotaka Terai², Robert Hadfield¹¹University of Glasgow, United Kingdom²Advanced ICT Research Institute, National Institute of Information and Communications Technology, Japan**1-EP-SP-I03****Gathering key-elements for YBCO based superconducting single photon detectors**Paul Amari¹, Cheryl Feuillet-Palma², Javier Briatico³, Françoise Couëdo², Nicolas Bergeal², Jérôme Lesueur²¹ESPCI Paris, PSL Research University, Sorbonne Université, CNRS, France²ESPCI Paris, France³Unité Mixte CNRS-Thales, France**1-EP-SP-S04****A compact, low-power <1K cooling platform for superconducting nanowire detectors**Emily Ronson¹, Simon Chase¹, Lee Kenny¹¹Chase Research Cryogenics Ltd, United Kingdom

1-EP-SP-S05

Amorphous MoSi films and superconducting nanowire single photon detectors

Han Bao¹, Jln Jin¹, Xiaoqing Jia¹, Xuecou Tu¹, Labao Zhang¹, Qingyuan Zhao¹, Lin Kang¹, Jian Chen¹, Peiheng Wu¹

¹Nanjing University, China

1-EP-SP-S06

Waveguide Integrated SNSPD Arrays for Scalable Quantum Photonics

Gavin Orchin¹, Jharna Paul¹, Umberto Nasti¹, Kleanthis Erotokritou¹, Marc Sorel¹, Robert Heath², Ben Slater², Döndü Sahin², Jorge Barreto², Robert Hadfield¹

¹University of Glasgow, United Kingdom

²University of Bristol, United Kingdom

1-EP-SP-S07

Resolving photon number with a 16-pixel interleaved SNSPD array

Weijun Zhang¹, J. Huang¹, C. L. Lv¹, L. X. You¹, C. J. Zhang¹, G. Z. Xu¹, X. Q. Sun¹, H. Li¹, Z. Wang¹, X. M. Xie¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

1-EP-SP-S08

Multispectral SNSPD based upon dielectric mirror

Peng Hu¹, Hao Li¹, Lixing You¹, Heqing Wang¹, Weijun Zhang¹, Zhen Wang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

1-EP-SP-S09

A 16-pixel NbN nanowire single photon detector coupled with 300 μm fiber

Qi Chen¹, LaBao Zhang¹, Biao Zhang¹

¹Research Institute of Superconducting Electronics, China

1-EP-SP-S10

Microwave multiplexing of superconducting nanowire single-photon detector arrays

Koran Jackson¹, Jon Collins², Umberto Nasti¹, Robert H. Hadfield¹, Alessandro Casaburi¹

¹University of Glasgow, United Kingdom

²University of Glasgow, National Physical Laboratory, United Kingdom

1-EP-SP-S11

Effect of thermal conductance on performance of single-photon detectors

Nicolo Petrini¹, Ilya Charaev¹, Andrew Dane¹, Di Zhu¹, Marco Colangelo¹, Karl K. Berggren¹

¹Massachusetts Institute of Technology, United States of America

1-EP-SP-S12

A single-photon computational camera using superconducting nanowire imagers

Ling-Dong Kong¹, Qing-Yuan Zhao¹, Kai Zheng¹, Shi Chen¹, Hai-Yang-Bo Lu¹, La-Bao Zhang¹, Xiao-Qing Jia¹, Jian Chen¹, Lin Kang¹, Pei-Heng Wu¹

¹School of Electronic Science and Engineering, Nanjing University, China

1-EP-SP-S13**Superconducting nanowire single photon detector for 2 μm -wavelength**Hui Zhou¹¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China**1-EP-SP-S14****Low temperature electronics for optimizing the performance of SNSPD**Chaolin Lv¹, Weijun Zhang¹, Xingyu Zhang¹, Hao Li¹, Lixing You¹¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China**1-EP-SP-S15****Multi-mode fiber coupled SNSPD with low system dark count rate**Lixing You¹, Chengjun Zhang¹¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China**1-EP-SP-I16****Thin film optimization for superconducting nanowire single-photon detector array**Umberto Nasti¹, Dmitry Morozov¹, Gregor Taylor¹, Archan Banerjee¹, Robert M. Heath¹, Alessandro Casaburi¹, Robert H. Hadfield¹¹University of Glasgow, United Kingdom**1-LP-AM2 - Accelerator Magnets 2**

Chairs: Jeroen van Nugteren, CERN and Michael Green, Lawrence Berkeley Laboratory

1-LP-AM2-I01**Mechanical design of nested 4 layer Canted Cosine Theta CCT corrector**Rafal Ortwein¹, Jacek Blocki¹, Glyn Kirby², Jeroen van Nugteren²¹Institute of Nuclear Physics Polish Academy of Sciences, Poland²CERN, Switzerland**1-LP-AM2-I02****Conceptual design of a HTS magnet for a particle physics experiment in space**Lucio Rossi¹, Magnus Dam², Gijs de Rijk², Enrico Chesta², William Burger³, Roberto Iuppa⁴, Rita Carpentiero⁵¹CERN, Switzerland, ASI, University of Trento, TIFPA, Italy²CERN, Switzerland³TIFPA, Italy⁴University of Trento, Italy⁵Agenzia Spaziale Italiana, Italy**1-LP-AM2-I03****Superconducting Magnetic System of the SPD setup at NICA**Alexander Kovalenko¹¹JINR, Russia

1-LP-AM2-I04

Long term operation of the superconducting triplet quadrupoles with cryocoolers

Kensuke Kusaka¹

¹RIKEN Nishina Center for Accelerator-Based Science, Japan

1-LP-AM2-I05

Cold Test of the First Serial HL-LHC MCBRD at 4.5K in IMPCAS

Dongsheng Ni¹, Wenjie Yang¹, Yu Liang¹, Wei Wu¹, Xudong Wang¹, Qingjin Xu²

¹Institute of Modern Physics, Chinese Academy of Sciences, China

²Institute of High Energy Physics, Chinese Academy of Sciences, China

1-LP-AM2-S06

Manufacture and Test Results of 10 kA HTS Current Leads for Accelerator Magnet

Chenglian Liu¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-LP-AM2-S07

Protection Study of the Superconductive Space Radiation Shielding Magnet

François-Paul Juster¹, Christophe Berriaud¹

¹CEA, IRFU, France

1-LP-AM2-S08

Distribution Feedbox for the Superconducting Link (SCLink) and Magnets of HL-LHC

Wendell Bailey¹, Yifeng Yang¹

¹Institute of Cryogenics, University of Southampton, United Kingdom

1-LP-AM2-S09

Busbar and splice technology development for HL-LHC new inner triplet magnets

Efstathios Tsolakidis¹, Ludovic Favier¹, Rosario Principe¹, Herve Prin¹, Christian Scheuerlein¹

¹CERN, Greece

1-LP-AM2-S10

Design of the consolidated LHC dipole diode busbar insulation system

Florian Meuter¹, Thomas Sahner¹, Jean Philippe Tock¹, Christian Scheuerlein¹

¹CERN, Switzerland

1-LP-AM2-S11

FRIB superconducting dipoles design and construction status

Ting Xu¹, Al-Mahmoud Yamen¹, Paul Brindza², Nathan Bultman¹, Earle Burkhardt¹, Jingping Chen¹, Jon DeKamp¹, Rao Ganni¹, Nusair Hasan¹, Lakshmi Lalitha¹, Samuel Miller¹, Hai Nguyen¹, Mohit Patil¹, Alexander Plastun¹, Mauricio Portillo¹, Marc Reaume¹, Mark Shuptar¹, John Wenstrom¹, Mengxin Xu¹, Bryan Tousignant¹, Wei Chang¹, Jeff Hulbert¹

¹Michigan State University, United States of America

²J3Thomas Jefferson National Accelerator Facility, Michigan State University, United States of America

1-LP-AM2-S12**Analysis of Short-Circuit Transients in the LHC Main Dipole Circuit**

Akrivi Liakopoulou¹, Anne-Johan Annema², Lorenzo Bortot¹, Zinur Charifoulline¹, Michal Maciejewski¹, Marco Prioli³, Emmanuele Ravaioli¹, Cora Salm², Jurriaan Schmitz², Arjan Verweij¹

¹CERN, Switzerland

²University of Twente, The Netherlands

³INFN, Italy

1-LP-AM2-S13**Electro-thermal analysis of the superconducting dipole circuit of SIS100**

Vivien Raginel¹, Christian Roux¹, Piotr Szwangruber¹, Walter Freisleben¹

¹GSI Helmholtzzentrum fuer Schwerionenforschung GmbH, Germany

1-LP-AM2-S14**Operation of the thin superconducting solenoid of the CMD-3 detector**

Sergey Karpov¹, Alexey Bragin¹, Alexander Ruban¹, Yuri Popov¹, Victor Okhapkin¹

¹Budker Institute of Nuclear Physics, Russia

1-LP-AM2-S15**Performance Analysis of Cabled Bundle-Barrier PIT Wire for the HL-LHC Project**

Simon C. Hopkins¹, Algirdas Baskys¹, Christopher B. Segal¹, Bernardo Bordini¹, Jerome Fleiter¹, Amalia Ballarino¹

¹CERN, Switzerland

1-LP-FCL - FCL Devices

Chairs: Fedor Gömöry, Institute of Electrical Engineering, Slovak Academy of Sciences and Naoki Hayakawa, Nagoya University

1-LP-FCL-I01**Advances of the EC project FASTGRID**

Pascal Tixador¹, Marcus Bauer², Albert Calleja³, Christian-Eric Bruzek⁴, Guy Deutscher⁵, Bertrand Dutoit⁶, Fedor Gomory⁷, Luciano Martini⁸, Mathias Noe⁹, Xavier Obradors¹⁰, Marcela Pekarcikova¹¹, Frédéric Sirois¹²

¹Université Grenoble Alpes – CNRS Grenoble INP, France

²THEVA, Germany

³OXOLUTIA, Spain

⁴NEXANS, France

⁵Tel Aviv University, Israel

⁶EPFL, Switzerland

⁷IEE, Slovakia

⁸RSE, Italy

⁹KIT, Germany

¹⁰CMAB, Spain

¹¹STUBA, Slovakia

¹²EPM, Canada

1-LP-FCL-I02

Resistive SFCL for Turboelectric Distributed Electric Propulsion Aircraft

Xiaozhe Pei¹, Wenjuan Song¹, Xianwu Zeng²

¹University of Bath, United Kingdom

²GE, United Kingdom

1-LP-FCL-I03

Study the alliance between SFCL and hybrid DC breaker for protecting HVDC grid

Jean Lévêque¹, Yacine Ayachi Amor¹, GaëtanDidier², Farid Hamoudi³

¹GREEN - Université de Lorraine, France

²Groupe de Recherche en Electrotechnique et Electronique de Nancy (GREEN), Faculté des Sciences et Technologies Université de Lorraine, France

³Laboratoire de Maitrise des Energies Renouvelables (LMER), Faculté de Technologie, Université de Bejaia, Algeria

1-LP-FCL-I04

Quench-induced Breakdown Characteristics of HTS Pancake Coil for Resistive SFCL

Naoki Hayakawa¹, Masataka Mambu¹, Hiroki Kojima¹, Shigeki Isojima², Minoru Kuwata³

¹Nagoya University, Japan

²Sumitomo Electric Industries, Ltd., Japan

³Nissin Electric Co, Ltd., Japan

1-LP-FCL-S05

A Superconducting FCL for Protection and Improving Operation of a DC Microgrid

David Penna Fernandes¹, DanielHenrique Nogueira Dias¹, FelipeSass¹, Alexandre Bittencourt¹

¹Fluminense Federal University, Brazil

1-LP-FCL-S06

Detailed Review of a Novel Model SFCL for Grid

Janos Arpad Kosa¹, Qing Shao², Istvan Vajda³

¹Neumann Janos University, Hungary

²Guilin University of Electronic Technology, China

³University of Debrecen, Hungary

1-LP-FCL-S07

Electrical Protection of a Hybrid Aircraft Using Superconductor

Janos Arpad Kosa¹

¹Neumann Janos University, Hungary

1-LP-FCL-S08

Analysis of a novel HTS Fault Current Limiting Cable in the VSC-MTDC

Benkang Yang¹, Dong Zhang¹, Qiujun Li¹, Zhifeng Zhang¹, Liangzhen Lin¹

¹Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences; Institute of Electrical Engineering, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China

1-LP-FCL-S09**Operational Characteristics of OCR using SFCL's Impedance Compensation**Sung-Hun Lim¹¹Department of Electrical Engineering, Korea, South**1-LP-FCL-S10****Design and current limiting test for a hybrid SFCL with bias magnetic field**Jiahui Zhu¹¹SGCC, China**1-LP-FCL-S11****Analysing Faults and SFCL Response in Electric Aircraft**Hamoud Alafnan¹, Xiaoze Pei², Moanis Khedr², Weiija Yuan³¹University of Bath, University of Hail, United Kingdom²University of Bath, United Kingdom³University of Strathclyde, United Kingdom**1-LP-FCL-S12****Analysis on protection coordination in LVDC with SFCL**Hyeong-Jin Lee¹, Jin-Su Kim¹, Sung-Hun Lim¹, Sang-Yun Yun², Jae-Chul Kim¹¹Department of Electrical Engineering, Soongsil University, Korea, South²Department of Electrical Engineering, Channam National University, Korea, South**1-LP-FCL-S13****Flux-Lock Type SFCL using Mechanical Switch without Additional Driving Source**Sung-Hun Lim¹¹Soongsil University, South Korea**1-LP-FCL-S14****Optimization of a RSFCL model using PHIL experimentation.**Guanbin Huang¹, Jean L  v  que¹, Ga  tan Didier¹¹Group of Research in Electrical Engineering of Nancy (GREEN), University of Lorraine, France**1-LP-FCL-S15****Shell and core-type magnetic circuits in inductive SFCL under asymmetric faults**Jo  o Murta-Pina¹, Nuno Vilhena², Anabela Pronto², Roberto Oliveira², Pedro Ars  nio³¹Faculdade de Ci  ncias e Tecnologia - FCT NOVA, Portugal²Centre of Technology and Systems - Uninova, Portugal³EDP LABELEC, Portugal**1-LP-FCL-S16****Design of an HTS Fault Current Limiting Module for 30 kV MDVC Power Grid**Jooyeong So¹, Seyeon Lee¹, Woo-Seok Kim¹, Kyeongdal CHOI¹¹Korea Polytechnic University, South Korea**1-LP-FCL-S17****Optimal Design of DC Resistive SFCL with Split Reactor in VSC-HVDC**Zhifeng Zhang¹, Huijuan Gao¹, Qingquan Qiu¹, Guomin Zhang¹, Liangzhen Lin¹¹Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences, China

1-LP-FCL-S18

Protective Coordination between Protective Relays in a Power System with SFCL

Sung-Hun Lim¹

¹Soongsil University, South Korea

1-LP-FCL-S19

A Comparative Study on the Effectiveness of SFCLs in a DC Power System

Jaein Lee¹, Changsoon Kim¹, Van Quan Dao¹, Minwon Park¹, In-Keun Yu¹

¹Changwon National University, South Korea

1-LP-FM - Fusion Magnets

Chairs: Rainer Wesche, École Polytechnique Fédérale de Lausanne
and Neil Mitchell, ITER Organization

1-LP-FM-I01

Optimization design and mechanical analysis of the CFETR TF coil

Xiaogang Liu¹, Fan Wu¹, Xiang Gao¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-LP-FM-I02

Commissioning and first operating phases of the W7-X Quench-Detection-System

Matthias Schneider¹, Dietrich Birus¹, Marko Fricke¹, Thomas Rummel¹

¹Quench Detection System, Germany

1-LP-FM-I03

Design and development progress of ReBCO CICC conductor for CFETR

Huan Jin¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-LP-FM-I04

A scalable HTS quench analysis model for fusion Central Solenoid magnets

Yuhu Zhai¹

¹Princeton University, United States of America

1-LP-FM-I05

Impact of Mechanical and Thermal Cycles on ITER Toroidal Field Coil Conductors

Marco Breschi¹, Lorenzo Cavallucci¹, Denis Bessette², Florent Gauthier², Neil Mitchell², Vladimir Tronza²

¹University of Bologna, Italy

²ITER Organization, France

1-LP-FM-S06

Topology optimization for superconducting magnet in helical fusion reactor

Hitoshi Tamura¹, Takuya Goto¹, Junichi Miyazawa¹, Teruya Tanaka¹, Nagato Yanagi¹

¹National Institute for Fusion Science, Japan

1-LP-FM-S07**Analysis of mechanical properties of CFETR TF CICC cable with different design**
Zichuan Guo¹, Chao Dai², Jinggang Qin²¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China²Institute of Plasma Physics Chinese Academy of Sciences, China**1-LP-FM-S08****Improved Resistance Measurement Method of the KSTAR Superconducting Coils**
Hirofumi Yonekawa¹, Jinsub Kim¹, Young-ok Kim¹, Kwang-pyo Kim¹, Yong Chu¹¹National Fusion Research Institute, South Korea**1-LP-FM-S09****A PSpice-Based Electric Circuit Model for Arcs in Large Superconducting Magnets**Heng Zhang¹, Ruben Otin¹, Sam Tippetts¹, Andrew Holmes¹, Simon McIntosh², Pierre Bauer², Neil Mitchell², Arjan Verweij³, Michal Maciejewski³, Hanni Lux¹, Elizabeth Surrey¹, Shanliang Zheng²¹UKAEA, United Kingdom²ITER, France³CERN, Switzerland**1-LP-FM-S10****Preliminary Design and Stability Analysis of the CFETR PF Conductor**Muhammad Talib Hussain¹, Wu Yu²¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China²Institute of Plasma Physics Chinese Academy of Sciences, China**1-LP-FM-S11****Development of the quench protection system for the CFETR CS model coil**Yuanyuan Ma¹¹Institute of Plasma Physics Chinese Academy of Sciences, China**1-LP-FM-S12****Feasibility Study of ITER In-Vessel Coils Bracket Manufacture and Integration**Aihua Xu¹, Chao Dai¹¹Institute of Plasma Physics Chinese Academy of Sciences, China**1-LP-FM-S13****Test Results and analysis of a prototype joint sample for the CFETR CSMC**Guanghai Ma¹¹Chinese Academy of Sciences, China**1-LP-FM-S14****Developments of NDE method of jacket welds for ITER In-Vessel coil joints**Xiaochuan Liu¹¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-LP-FM-S15

Investigation of Trade-off Solution in Mechanical Edge Joint of STARS Conductors

Sotaro Sato¹, Satoshi Ito¹, Hidetoshi Hashizume¹

¹Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

1-LP-FM-S16

Analysis of eddy current loss for CFETR TF coil case

Xufeng Liu¹, Jinxing Zheng¹, Shuangsong Du¹, Changle Feng¹

¹Institute of Plasma Physics, Chinese Academy of Science, China

1-LP-FM-S17

Thermal-hydraulic Analysis of TF Fast Discharge on CFETR

Xinghao Wen¹, Junjun Li², Yong Ren², Dongquan Wang², Xiang Gao²

¹University of Science and Technology of China, China

²Institute of Plasma Physics, Chinese Academy of Sciences, China

1-LP-FM-S18

The preliminary thermal hydraulic analysis of TF coil on CFETR

Junjun Li¹, Xinghao Wen¹, Yong Ren¹, Xiaogang Liu¹, Zhaoliang Wang¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-LP-FM-S19

Inductive Noise Cancellation Method for Quench Detection of the KSTAR CS Coils

Jinsub Kim¹, Youngmu Jeon¹, Hirofumi Yonekawa¹, Kwang pyo Kim¹, Yong Chu¹

¹National Fusion Research Institute, South Korea

1-LP-FM-I20

Modelling of quench propagation in pancake-wound coils for fusion applications

Roberto Bonifetto¹, Laura Savoldi¹, Roberto Zanino¹, Andrea Zappatore¹

¹NEMO Group, Dipartimento Energia, Politecnico di Torino, Italy

1-LP-FM-S21

On the Numerical Issues in Thermo-hydraulic Modeling with the CryoSoft Suite

Dong Keun Oh¹, Sangjun Oh¹, Luca Bottura², Monika Lewandowska³

¹National Fusion Research Institute, Korea, South

²CERN, Switzerland

³West Pomeranian University of Technology Szczecin, Poland

1-LP-FM-S22

7.1 Tesla Cryogen-Free Gyrotron magnet for the ITER development programme

Roger Mitchell¹

¹Cryogenic Ltd, United Kingdom

1-LP-FM-S25

Transverse pressure tests on HTS strands

Ortensia Dicuonzo¹, Davide Uglietti¹, Rainer Wesche¹, Pierluigi Bruzzone¹

¹EPFL-SPC, Switzerland

1-LP-PC - Power Cables

Chairs: Min Zhang, University of Strathclyde and Elena Martinez, ICMA
(CSIC – University of Zaragoza)

1-LP-PC-101

Efficient HTS DC- Cable for Power Distribution in Hybrid-Electric Aircraft

Steffen Elschner¹, Sonja I. Schlachter², Joerg Brand³, Stefan Fink², Bernhard Holzapfel², Andrej Kudymow², Severin Strauss²

¹Mannheim University of Applied Science, Germany

²Karlsruhe Institute of Technology (KIT), Institute for Technical Physics (ITeP), Germany

³Ingenieurbuero Brand, Germany

1-LP-PC-102

Feasibility of ultra-compact HTS CrossConductor based power transmission cables

Dustin Kottonau¹, Michael Wolf¹, Walter Fietz¹, Joerg Stammen², Holger Hirsch²

¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany

²University of Duisburg-Essen - Institute for Power Transmission and Storage, Germany

1-LP-PC-103

Cryogenic rectifiers connected HTS generators for future all electric aircraft

Abdelrahman El-Wakeel¹, Sriharsha Venuturumilli¹, Min Zhang¹, Weijia Yuan¹

¹University of Strathclyde, United Kingdom

1-LP-PC-104

Component Mass Contributions in Superconducting Motors for Commercial Aviation

Kent Hamilton¹, Swarn Kalsi², Zhenan Jiang¹, Rod Badcock¹

¹Robinson Research Institute, New Zealand

²Kalsi Green Power Systems, United States of America

1-LP-PC-105

Standardization of Critical Current Test Method of Superconducting Cables

Teruo Matsushita¹, Masaru Kiuchi¹, Gen Nishijima², Takato Masuda³, Shinichi Mukoyama⁴, Yuji Aoki⁵, Masanao Mimura⁶

¹Kyushu Institute of Technology, Japan

²National Institute for Materials Science, Japan

³Sumitomo Electric Industries, Japan

⁴Furukawa Electric Co., Ltd., Japan

⁵SWCC Showa Cable Systems Co., Ltd., Japan

⁶The Japanese Electric Wire & Cable Maker's Association, Japan

1-LP-PC-106

Feasibility study of application of HTS cable in large city distribution grids

Tianhui Yang¹, Ying Xin¹, Hui Jin¹, Bo Tian²

¹School of Electrical and Information Engineering, Tianjin University, China

²Futong Group (Tianjin) Superconductor Technologies and Applications Co., Ltd., China

1-LP-PC-S07

Determining the switch-gear operation times along the electric aircraft profile

Sriharsha Venuturumilli¹, Min Zhang¹, Weijia Yuan¹

¹University of Strathclyde, United Kingdom

1-LP-PC-S08

Adoption of getter pump for HTS superconducting cable system

Michihiko Watanabe¹, Takato Masuda¹, Tomoo Mimura², Masayuki Tanazawa², Hirohito Yamaguchi²

¹Sumitomo Electric Industries, Ltd., Japan

²Tokyo Electric Power Company Holdings, Japan

1-LP-PC-S09

Design and Loss Analysis of a Novel Underwater Wireless Power Transfer System

Liu Guanjie¹

¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

1-LP-PC-S10

High Temperature Superconducting (HTS) Cable Application to Ship Deperming Work

Megumi Hirota¹

¹Non-Profit Organization, Naval Ship Magnetic and UEP Research Committee, Japan

1-LP-PC-S11

Development of tri-axial superconducting cable system for plants

Hideo Sugane¹

¹SWCC Showa Cable Systems co., Ltd., Japan

1-LP-PC-S12

2D FE modelling of the AC transport power loss in multi-layer 1G cables

Alexander Petrov¹, James Pilgrim¹, Igor Golosnoy¹

¹University of Southampton, United Kingdom

1-LP-PC-S13

AC losses of 23kV 60MVA 3-Phase Coaxial HTS Cable for normal and fault cases

Jaeun Yoo¹, Seokju Lee², DuYean Won¹, HyukChan Son³, HyungSuk Yang¹

¹Korea Electric Power Corporation Research Institute, South Korea

²Changwon National University, South Korea

³Korea Electric Power Corporation, South Korea

1-LP-PC-S14

Design optimization of high-voltage HTS three-phase cables with screened phases

Pavel Degtyarenko¹, Sergey Kopylov¹, Nikolay Balashov¹, Vladimir Zheltov¹, Valery Altov¹, Andrey Arkhangelsky¹, Sergey Samoilenov¹

¹IJHT RAS, Russia

1-LP-PC-S15**Railways systems based on superconducting DC transmission**

Masaru Tomita¹, Kenji Suzuki¹, Yusuke Fukumoto¹, Atsushi Ishihara¹, Tomoyuki Akasaka¹, Yusuke Kobayashi¹, Taiki Onji¹

¹Railway Technical Research Institute, Japan

1-LP-PC-S16**Research of Overcurrent Stability of 100kV/1kA HTS Cable Cooled by the 90K LNG**

Qiujuan Li¹, Dong Zhang², Benkang Yang², Zhifeng Zhang³, Liangzhen Lin³

¹Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences, China

²Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences; Institute of Electrical Engineering, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China

³Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences; Institute of Electrical Engineering, Chinese Academy of Sciences, China

1-LP-PC-S17**Electromagnetic design of a DC HTS cable for the future French railway network**

Kévin Berger¹, Ghazi Hajiri², Rémi Dorget¹, Guillaume Escamez³, Christian-Eric Bruzek³, Hervé Caron⁴

¹GREEN - Université de Lorraine, Faculté des Sciences et Technologies, France

²GREEN - Université de Lorraine, Faculté des Sciences et Technologies, SNCF Réseau - Direction Générale Industrielle et Ingénierie, France

³Nexans France, France

⁴SNCF Réseau - Direction Générale Industrielle et Ingénierie, France

1-LP-PC-S18**Efficient 3D model for coaxial HTS cable with anisotropic homogenous approach**

Min Yao¹, Quan Li², Hongye Zhang²

¹University of Edinburgh, United Kingdom

²Institute of Energy System, School of Engineering, the University of Edinburgh, United Kingdom

1-LP-PC-S19**Design of the HTS Power Cable for an Energy Pipeline Project**

Dong Zhang¹, Liye Xiao¹, Qingquan Qiu¹, Yuping Teng¹, Jingye Zhang¹, Naihao Song¹, Xiaoji Du¹, Guomin Zhang¹, Liangzhen Lin¹

¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

1-LP-PC-S20**Design and performance analysis of a three-phase HTS coaxial power cable**

Seong Yeol Kang¹, Dinh Vuong Le¹, Seok Ju Lee¹, Minwon Park¹, In Keun Yu¹

¹Changwon National University, South Korea

1-LP-PC-S21**Abstract of the development of HTC DC cable based on 2G YBCO wire**

Chen Huijuan¹

¹Suzhou Advanced Materials Research Institute, China

1-LP-PC-S22

Experimental Test Results of AC 23kV 60MVA Class 3-Phase Coaxial HTS Cable

JinBae Na¹, YoongSeo Jang¹, Seokju Lee², Minwon Park², Du Yean Won³, Hyung Suk Yang³

¹LS Cable&System, South Korea

²Changwon National University, South Korea

³KEPCO, South Korea

1-MP-BI - BiSCCO-materials

Chairs: Christian Scheuerlein, CERN and Jianyi Jiang, Florida State University

1-MP-BI-S01

Improving the physical properties of Bi,Pb-2223 phase by pelletization pressure

Ramadan Awad¹, Ahmad Najem¹, Hadi Basma¹, Ashraf Mustafa¹

¹Beirut Arab University, Lebanon

1-MP-BI-S02

Macroscopic Factors to define the high J_c nanostructure in Bi-2212 Round Wires

Fumitake Kametani¹, Abiola Oloye¹, Yavuz Oz¹, Jianyi Jiang¹, Ulf Trociewitz¹, Eric Hellstrom¹, David Larbalestier¹

¹Florida State University, National High Magnetic Field Laboratory, United States of America

1-MP-BI-S03

Strong high J_e Bi2212 wire fabricated into high current cables and coils

Alexander Otto¹

¹Solid Material Solutions, LLC, United States of America

1-MP-BI-S04

Development of low ac loss HTS wires and cables with Bi2212 superconductor

Alexander Otto¹

¹Solid Material Solutions, LLC, United States of America

1-MP-BI-S05

Joint development between Bi-2212/Ag wires

Tayebeh Mousavi¹, Danielle Gilst², Ella Carlsen-O'Connor², Ziad Melhem³, Yibing Huang⁴, Chris Grovenor², Susannah Speller²

¹Materials Department, University of Oxford, United Kingdom

²Department of Materials, University of Oxford, United Kingdom

³Oxford Instruments, United Kingdom

⁴Bruker OST LLC, United States of America

1-MP-BI-S06

Effects of oxygen doping in Bi-2212 wires and bulk samples

David G. Bader¹, Mark O. Rikel², Jianyi Jiang³, Yavuz Oz³, David C. Larbalestier³, Michael Eisterer¹

¹Atominstitut, TU Wien, Austria

²Deutsche Nanoschicht GmbH, Germany

³National High Magnetic Field Laboratory, Florida State University, United States of America

1-MP-BI-S07**Performance and Microstructure of Bi-2212 Wire under Different OverPressures**Dongsheng Yang¹, Jिंगgang Qin¹¹Institute of Plasma Physics Chinese Academy of Sciences, China**1-MP-BI-S08****Indentation effect on strain sensitivity to critical current of Bi2212 strand**Chao Dai¹¹Institute of Plasma Physics Chinese Academy of Sciences, China**1-MP-CC1 - Coated Conductors 1**

Chair: Yutaka Yoshida, Nagoya university

1-MP-CC1-I01**Life Cycle Assessment of High-Temperature-Superconductor Tape Production**Alexander Buchholz¹, Mathias Noe², Veit Große³, Marcel Weil⁴¹Institute for Technology Assessment and Systems Analysis, Germany²Institute for Technical Physics, Germany³THEVA Dünnschichttechnik GmbH, Germany⁴Institute for Technology Assessment and Systems Analysis, Helmholtz Institute Ulm, Germany**1-MP-CC1-I02****A Novel Combinatorial Chemistry Inkjet Printing Strategy for REBCO film growth**Albert Queraltó¹, Flavio Pino¹, Adrià Pacheco¹, Lavinia Saltarelli¹, Diana Garcia¹, Susagna Ricart¹, Xavier Obradors¹, Teresa Puig¹¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain**1-MP-CC1-I03****Energy-based vector hysteresis model for the ferromagnetic substrate of 2G tapes**Julien Dular¹, Christophe Geuzaine¹, Benoît Vanderheyden¹¹University of Liège, Department of Electrical Engineering and Computer Science, Belgium**1-MP-CC1-S04****Radiation damage mechanisms in coated conductors**Yatir Linden¹, William Iliffe¹, Guanze He¹, Mohsen Danaie², David Fischer³, Michael Eisterer³, Susie Speller¹, Chris Grovenor¹¹University of Oxford, United Kingdom²Electron Physical Sciences Imaging Centre (ePSIC), United Kingdom³Atominstytut, TU Wien, Austria**1-MP-CC1-S05****A new novel nanobond technology to make soldered joints for HTS tapes**Qingbo Zhang¹, Edward Young¹, Yifeng Yang¹¹University of Southampton, United Kingdom

1-MP-CC1-S06

Preparation and characteristics of superconducting joints of NbTi thin films

Yoshiyuki Yoshida¹, Hiroshi Takashima¹, Kazuhiko Tonooka¹, Mitsuo Furuse¹

¹National Institute of Advanced Industrial Science and Technology (AIST), Japan

1-MP-CC1-S07

YBCO/Conductive-Sr(Ti,Nb)O₃/Ni/Cu/SS316 Coated Conductor with clean interfaces

Toshiya Doi¹, Tsuyoshi Hamada¹, Seiya Inoue¹, Shigeru Horii¹, Ataru Ichinose²

¹Kyoto University, Japan

²Central Research Institute of Electric Power Industry, Japan

1-MP-CC1-S08

Microstructure of coated conductor with La or Nb-doped SrTiO₃ conductive buffer

Ataru Ichinose¹, Tsuyoshi Hamada², Seiya Inoue², Shigeru Horii², Toshiya Doi²

¹Central Research Institute of Electric Power Industry, Japan

²Kyoto University, Japan

1-MP-CC1-S09

Towards a reliable bridge joint between REBCO coated conductors

Anke Kirchner¹, Kornelius Nielsch¹, Ruben Hühne¹

¹IFW Dresden, Institute for Metallic Materials, Germany

1-MP-CC1-S10

Critical Current of REBCO tape from Industrial Manufacturers under Uniaxial Load

Yi Shi¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-MP-CC1-S11

Nucleation and growth of YBCO film on CeO₂-buffered substrate by FF-MOD route

Jingyuan Chu¹

¹Shanghai Jiao Tong University, China

1-MP-CC1-S12

Nucleation behaviors of YBCO grown on two technical substrates by FF-MOD Route

Jiangtao Shi¹

¹Shanghai Jiao Tong University, China

1-MP-CC1-S13

Flux pinning anisotropy in YBCO thin films grown on IBAD-MgO based template

Elmeri Rivasto¹, Mukarram Zaman Khan¹, Yue Zhao², Chunsheng Chen³, Jiamin Zhu³, Jussi Tikkanen⁴, Heikki Palonen⁴, Hannu Huhtinen⁴, Petriina Paturi⁴

¹Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, University of Turku Graduate School (UTUGS), University of Turku, Finland

²Department of Electrical Engineering, Shanghai Jiao Tong University, China

³Shanghai Superconductor Technology Co. Ltd., China

⁴Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, Finland

1-MP-CU - Cuprates

Chairs: Jasmin Congreve, University of Cambridge and Anna Palau, Institut de Ciència de Materials de Barcelona (ICMAB-CSIC)

1-MP-CU-I01

Chemical Solution Deposition of Gd-doped YBa₂Cu₃O_{7-δ} films

Valentina Pinto¹, Fabrizio Mario Ferrarese¹, Angelo Vannozzi¹, Achille Angrisani Armenio¹, Francesco Rizzo¹, Andrea Augieri¹, Antonino Santoni², Flaminia Rondino², Fabio Fabbri¹, Antonella Mancini¹, Laura Piperno³, Sara Politi⁴, Massimo Tomellini⁴, Silvia Orlanducci⁴, Giuseppe Celentano¹

¹Superconductivity Laboratory, FSN-COND, ENEA, Italy

²FSN-TECFIS-MNF, ENEA, Italy

³Superconductivity Laboratory, FSN-COND, ENEA, Engineering Department, Roma Tre University, Italy

⁴Department of Chemical Sciences and Technologies, Tor Vergata University, Italy

1-MP-CU-I02

Emulating high-throughput chemical solution deposition of YBCO by PLD

Lavinia Saltarelli¹, Max Sieger, Laia Soler¹, Julia Jareño¹, Bernat Mundet¹, Alexander Meledin², Juri Banchewski¹, Pedro Barusco¹, Albert Queralto¹, Adria Pachecho¹, Joachim Mayer², Xavier Obradors¹, Teresa Puig¹

¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain

²Gemeinschaftslabor für Elektronenmikroskopie, GFE, RWTH Aachen, Germany

1-MP-CU-I03

TFA-MOD-grown BaHfO₃-REBa₂Cu₃O_{7-δ} nanocomposite films on buffered Ni-5at%W tapes

Wolfram Freitag¹, Manuela Erbe¹, Pablo Cayado¹, Martina Falter², Michael Bäcker², Jens Hänisch¹, Bernhard Holzapfel¹

¹Karlsruhe Institute of Technology (KIT), Germany

²Deutsche Nanoschicht GmbH, Germany

1-MP-CU-S04

Strictly application-oriented REBCO bulk fabrication

Uta Floegel-Delor¹, Thomas Riedel¹, Peter Schirrmeister¹, Rene Koenig¹, Viktor Kantarbar¹, Mirko Liebmann¹, Frank Werfel

¹Adelwitz Technologiezentrum GmbH, Germany

1-MP-CU-S05

Fluctuation Induced Conductivity in Welded TSMG YBCO Superconductors

Şeyda Duman¹, Bakiye Çakır¹, Alev Aydiner¹

¹Karadeniz Technical University, Turkey

1-MP-CU-S06

Performance enhanced REBa₂Cu₃O_x superconductors by modified growth process

Xin Yao¹

¹School of Physics and Astronomy, Shanghai Jiao Tong University, China

1-MP-CU-S07

Bulk thickness vs levitation and trapped field of perforated YBCO parts

Filip Antončík¹, Michal Lojka¹, Tomáš Hlášek², Vilém Bartůněk³, Ondřej Jankovský⁴

¹UCT Prague, Department of Inorganic Chemistry, Czech Republic

²CAN SUPERCONDUCTORS, Czech Republic

³University of Chemistry and Technology, CAN SUPERCONDUCTORS, Czech Republic

⁴University of Chemistry and Technology, Czech Republic

1-MP-CU-S08

Magnetic Properties of Solution Blow Spun HTS Nanowires in High Magnetic Fields

Mark Raine¹, Alexsander Pessoa², Rafael Zadorosny², John Durrell³, Devendra Namburi³, Damian Hampshire¹

¹European Fusion Energy Reference Laboratory - Metrology of Superconducting Strands. Superconductivity group, Centre for Materials Physics, Department of Physics, Durham University, United Kingdom

²Superconductivity and Advanced Materials Group, Sao Paulo State University (UNESP), Brazil

³Superconductivity Group, Department of Engineering, University of Cambridge, United Kingdom

1-MP-CU-S09

Limitations of REBCO single-domain bulks under gamma and neutron irradiation

Tomáš Hlášek¹, Vilém Bartůněk², Ondřej Jankovský², Kryštof Dobrovolný³, Ladislav Viererbl⁴

¹CAN Superconductors, Czech Republic

²University of Chemistry and Technology Prague, Department of Inorganic Chemistry, Czech Republic

³University of Chemistry and Technology Prague, Department of Power Engineering, Czech Republic

⁴Research Center ŘEŽ, Czech Republic

1-MP-CU-S10

Fabrication of Superconducting Films using Inkjet Printers

Gisele Souza¹, Rafael Zadorosny², Claudio Carvalho¹

¹São Paulo State University (UNESP), School of Engineering, Brazil

²São Paulo State University (UNESP), School of Engineering, São Paulo State University (UNESP), School of Sciences, Brazil

1-MP-CU-S11

Biaxial aligned Dy123 by linear-drive type of modulated rotating magnetic field

Shigeru Horii¹, Fumiko Kimura², Hayato Kashiwagi², Toshiya Doi²

¹Kyoto University of Advanced Science, Japan

²Kyoto University, Japan

1-MP-CU-S12

Influence of Acetate Method on Superconducting Behavior of (Y/Nd)-123 HTS

Ana Carolina de Léo¹, Marcelo Azevedo Neves², Ada López¹

¹IFADT (Physics Institute Armando Dias Tavares) - UERJ (University of the State of Rio de Janeiro), Brazil

²LMDS (Laboratory of Materials and Devices with Superconductors) - DFIS (Dept. of Physics) - UFRJ (Federal Rural University of Rio de Janeiro), Brazil

1-MP-CU-S13**Flux vortex dynamics in bulk (RE)-Ba-Cu-O superconductors**

Jan Sprcic¹, Kai Yuan Huang¹, Dominic Moseley¹, Devendra Kumar Namburi¹, Yunhua Shi¹, Mark Ainslie¹, Anthony Dennis¹, Mykhaylo Filipenko², Martin Boll², Archie Campbell¹, David Cardwell¹, John Durrell¹

¹University of Cambridge, United Kingdom

²Siemens AG, Germany

1-MP-CU-S14**Improvement of J_c(H) on Y/Nd-123 HTS with addition of Nanostructured Zirconia**

Leonardo Picanço Peixoto de Abreu¹, Marcelo Azevedo Neves², Ana Carolina de Léo³

¹Escola Politécnica - UFRJ (Federal University of Rio de Janeiro), Brazil

²LMDS (Laboratory of Materials and Devices with Superconductors) - DFIS (Dept. of Physics) - UFRJ (Federal Rural University of Rio de Janeiro), Brazil

³IFADT (Physics Institute Armando Dias Tavares) - UERJ (University of the State of Rio de Janeiro), Brazil

1-MP-CU-S15**Comparative study of thermal expansion in High-T_c Superconductors Y-123 & Bi-2212**

Marcelo Azevedo Neves¹, Artur Jorge da Silva Lopes¹, João Ricardo Quintal², Ludmila Gabcan³, Máximo Ferreira da Silveira⁴

¹LMDS (Laboratory of Materials and Devices with Superconductors) - DFIS (Dept. of Physics) - UFRJ (Federal Rural University of Rio de Janeiro), Brazil

²Colégio Pedro II / RJ, Brazil

³SEEDUC / RJ, Brazil

⁴IF (Physics Institute) - UFRJ (Federal University of Rio de Janeiro), Brazil

1-MP-CU-S16**Optimizing a new YBCO non-fluorine chemical method using organic additives**

Andrada Daniel¹, Mircea Nasui¹, Traian Petrisor¹, Bianca Mos¹, Mihai Gabor¹, Lelia Ciontea¹, Traian Petrisor¹

¹Centre for Superconductivity, Spintronics and Surface Science, Technical University of Cluj-Napoca, Romania

1-MP-CU-S17**Superconductivity in (Nb,Pb)Sr₂EuCu₂O_z (z~8)**

Toshihiko Maeda¹, Yoshihiro Yamada¹, Keisuke Ozaki¹, Tamon Wada¹, Ryutaro Koresawa¹, Taisei Nakamura¹

¹Kochi University of Technology, Japan

1-MP-CU-S18**Magnetizing characteristic evaluation of REBCO bulk in PFM using different yokes**

Kazuya Yokoyama¹, Tetsuo Oka²

¹Ashikaga University, Japan

²Shibaura Institute of Technology, Japan

1-MP-CU-S19**Novel processing of high performance YBCO superconductors by ultrasonicated Y211**

Sunsanee Pinmangkorn¹, Muralidhar Miryala¹, Sai Srikanth Arvapalli¹, Masato Murakami¹

¹Shibaura Institute of Technology, Japan

1-MP-CU-S20

Oxygen doping effects in CSD-YBCO nanocomposite film with preformed nanocrystals

Javier Díez Sierra¹, Mark Rikel², Hannes Rijckaert¹, Hannu Huhtinen³, Martina Falter², Petriina Paturi³, Michael Bäcker², Isabel Van Driessche¹

¹Ghent University, Belgium

²Deutsche Nanoschicht, Russia

³University of Turku, Finland

1-MP-EP - Electromechanical Properties - HTS

Chairs: Mark Ainslie, University of Cambridge and Ortensia Dicuonzo, EPFL-SPC

1-MP-EP-01I

Bending Effect on the Transport Performance of Bi-2212 Round Wires

Zhehua Mao¹, Jinggang Qin¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-MP-EP-02I

Stability analysis of YBCO composite conductor with critical current degradation

Zhengshuo Zhang¹, Jinxing Zheng¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

1-MP-EP-03S

Influence of Bending strain on critical current of superconducting tape

Ming Lei¹, Tengteng Li¹, Xinsheng Yang¹, Wei Chen¹

¹Southwest Jiaotong University, China

1-MP-EP-04S

Effect of self-field on the Critical Current of ReBCO Coated Conductors

Abhinav Kumar¹

¹Lovely Professional University, India

1-MP-EP-05S

Spherical harmonic decomposition of the magnetic field between two HTS bulks

Kévin Berger¹, Melika Hinaje¹, Kazuya Higa², Tetsuo Oka³, Takashi Nakamura⁴, Pierre-Louis Marande⁵, Sébastien Leclerc⁵

¹GREEN - Université de Lorraine, Faculté des Sciences et Technologies, France

²Information and Electric Engineering, Niigata University, Japan

³Materials Science and Engineering, Shibaura Institute of Technology, Japan

⁴RIKEN, Japan

⁵CRM2, Université de Lorraine/CNRS, France

1-MP-EP-06S

A finite-element approach to investigate flux jumps in bulk superconductors

Vito Ciantanni¹, Danny Huang¹, Yunhua Shi¹, Anthony Dennis¹, Yeekin Tsui¹, Mark Ainslie¹

¹Bulk Superconductivity Group, Division C, Engineering Department, University of Cambridge, UK

1-MP-EP-07S**Analysis of mechanical behavior in inhomogeneous HTSs**Haowei Wu¹, Huadong Yong¹, Youhe Zhou¹¹College of Civil Engineering and Mechanics, Lanzhou University, China**1-MP-EP-08S****Influence of local deformation on critical current of HTS tape**Tomáš Kujovič¹, Fedor Gömöry¹¹Institute of Electrical Engineering SAS, Slovakia**1-MP-EP-09S****Load characteristics of contactless bearing based on HTSC tape**Igor Rudnev¹, Dmitriy Abin¹, Maksim Osipov¹, Aleksander Starikovskii¹, Irina Anischenko¹, Sergey Pokrovskii¹, Alexsey Podlivaev¹¹National Research Nuclear University MEPhI, Russia**1-MP-EP-10S****Comparison of properties of a bulk HTS and a stack of HTS tapes after FC and ZFC**Ekaterina Kurbatova¹, Pavel Kurbatov¹, Egor Kuschenko¹, Mikhail Sysoev¹, Yurii Kulaev¹¹National Research University, Moscow Power Engineering Institute, Russia**1-MP-EP-11S****Dissipative conductivity in moderately clean superconductors**Yoichi Higashi¹, Akira Miyazaki², Yasunori Mawatari¹¹National Institute of Advanced Industrial Science and Technology (AIST), Japan²Department of Physics and Astronomy, Uppsala University, Sweden**1-MP-FP2 - Critical Current and Flux Pinning 2**

Chairs: Judy Wu, University of Kansas and Francesco Laviano, Politecnico di Torino

1-MP-FP2-I01**The enhanced J_c in TFA-MOD (Y,Gd)BCO+ BZO films on CeO₂ / R-Al₂O₃ substrates**Taiki Furuya¹, Yoshinori Kamada¹, Keita Sakuma¹, Masashi Miura¹¹Seikei University, Japan**1-MP-FP2-I02****Environmentally benign CSD-YBCO nanocomposites with preformed HfO₂ nanocrystals**Hannes Rijckaert¹, Mika Malmivirta², Nicolas Gauquelin³, Sara Bals³, Michael Bäcker⁴, Petriina Paturi², Isabel Van Driessche¹¹SCRiPTS, Ghent University, Belgium²University of Turku, Finland³EMAT, University of Antwerp, Belgium⁴Deutsche Nanoschicht GmbH, Germany

1-MP-FP2-I03

Nanostructured Templates for Jc Enhancement in YBa₂Cu₃O_{7-x} films

Laura Piperno¹, Achille Angrisani Armenio², Angelo Vannozzi², Antonella Mancini², Francesco Rizzo², Valentina Pinto², Andrea Augieri², Alessandro Rufoloni², Ramona Mos³, Lelia Ciontea³, Traian Petrisor³, Traian Petrisor Jr³, Giovanni Sotgiu⁴, Giuseppe Celentano²

¹Roma Tre University, Engineering Department, Italy

²ENEA Frascati Research Centre, Italy

³Technical University of Cluj Napoca, Italy

⁴Roma Tre University, Italy

1-MP-FP2-I04

Increased pinning in REBCO coated conductors grown by liquid-assisted processes.

John Feighan¹

¹University of Cambridge, SuNAM Co. Ltd., United Kingdom

1-MP-FP2-I05

Improved performances in ZrO₂-doped CSD-YBCO nanocomposite film via DSD approach

Pablo Cayado¹, Hannes Rijckaert², Jonas Billet², Max Sieger³, Ruben Huehne⁴, Manuela Erbe¹, Jens Haenisch¹, Michael Baecker⁵, Jonathan De Roo², Isabel Van Driessche², Bernard Holzapfel¹

¹Karlsruhe Institute of Technology (KIT), Germany

²SCRIPTS, Ghent University, Belgium

³Institute for Metallic Materials, IFW Dresden, Germany

⁴IFW Dresden, Germany

⁵Deutsche Nanoschicht GmbH, Germany

1-MP-FP2-S06

The influence of O₂ annealing condition on the in-field J_c of (Y,Gd)BCO+BZO CCs

Junya Ohta¹, Kazuki Shimizu¹, Masashi Miura¹, Akira Ibi², Koichi Nakaoka², Teruo Izumi²

¹Seikei University, Japan

²AIST, Japan

1-MP-FP2-S07

High J_c TFA-MOD-(Y_{0.77}Gd_{0.23})Ba₂Cu₃O_y films on CeO₂ buffered R-Al₂O₃ substrates

Keita Sakuma¹, Yoshinori Kamada¹, Masashi Miura¹

¹Seikei University, Japan

1-MP-FP2-S08

The influence of BaHfO₃ nanorods on the in-field J_c for RTR-PLD EuBa₂Cu₃O_y CCs

Kenji Miyata¹, Shuji Anno¹, Jun Nishimura¹, Masashi Miura¹, Akira Ibi², Teruo Izumi²

¹Seikei University, Japan

²AIST, Japan

1-MP-FP2-S09**The epitaxial growth of high-Jc GdBCO films with Co doping by non-fluorine CSD**

Zhengjian Tian¹, Wentao Wang², Lian Liu³, Baolei Huo¹, Xue Yang¹, Gansong Yang¹, Mingjian Wang⁴, Yong Zhao⁵

¹Key Laboratory of Advanced Technologies of Materials (Ministry of Education of China), School of Materials Science and Engineering, Southwest Jiaotong University, China

²Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), Southwest Jiaotong University, Key Laboratory of Advanced Technologies of Materials (Ministry of Education of China), School of Materials Science and Engineering, Sou, China

³Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), School of Electrical Engineering, Southwest Jiaotong University, Key Laboratory of Advanced Technologies of Materials (Ministry of Education of China), School of Mat, China

⁴Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), School of Electrical Engineering, Southwest Jiaotong University, China

⁵College of Physics and Energy, Fujian Normal University, Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), School of Electrical Engineering, Southwest Jiaotong University, China

1-MP-FP2-S10**Tunable BaMO₃ (M= Ti, Zr and Hf) Nps used on CSD approach to YBa₂Cu₃O₇ layers**

Susagna Ricart¹, Natalia Chamorro², Diana Garcia³, Julia Jareño¹, Cornelia Pop¹, Juri Banchewski¹, Josep Ros², Ramon Yañez², Anna Palau¹, Xavier Obradors¹, Teresa Puig¹

¹ICMAB-CSIC, Spain

²UAB, Spain

³ICMAB-CSIC, UAB, Spain

1-MP-FP2-S11**Flux pinning in BaHfO₃ and Ba₂Gd(Nb, Ta)O₆ nanocomposite GdBa₂Cu₃O₇ thin films**

Ruslan Popov¹, Kai Ackermann¹, Bernhard Holzapfel¹, Jens Hänisch¹

¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany

1-MP-FP2-S12**Magnetic vortex pinning effects of Cobalt nanodots deposited on YBa₂Cu₃O₇ films**

Traian Petrisor Jr.¹, Mihai Sebastian Gabor¹, Mircea Nasui¹, Ramona Bianca Mos¹, Adrian Dinescu², Andrea Augieri³, Giuseppe Celentano³, Lelia Ciontea¹, Traian Petrisor⁴

¹Centre for Superconductivity, Spintronics and Surface Science, Physics and Chemistry Department, Technical University of Cluj-Napoca, Romania

²National Institute for Research and Development in Microtechnologies, Romania

³ENEA Frascati Research Centre, Italy

⁴Centre for Superconductivity, Spintronics and Surface Science, Technical University of Cluj-Napoca, Romania

1-MP-FP2-S13**REBCO HTS Wires on Thinner Hastelloy Substrates – Performance and Properties**

Yifei Zhang¹, Aarthi Sundaram¹, Satoshi Yamano¹, Allan Knoll¹, Shinya Yasunaga¹, Gene Carota¹, Paul Brownsey¹, Drew Hazelton¹, Toru Fukushima¹

¹SuperPower Inc., United States of America

1-MP-FP2-S14

Increase of critical currents by Mo substitution for YBaCuO single crystals

Anton Los¹, Bogdan Dabrowski², Krzysztof Rogacki¹

¹Institute of Low Temperature and Structure Research, Poland

²Physics Department, Northern Illinois University, United States of America

1-MP-FP2-S15

New line of SuperOx 2G HTS wires with improved critical current and flux pinning

Valery Petrykin¹, Marat Gaifullin¹, Maki Okube¹, Naoyuki Hirata¹, Vladimir Vyatkin¹, Miyuki Nakamura¹, Juhyun Chung¹, Sergey Lee¹, Alexander Molodyk², Sergey Samoilencov², Tatsu Okada³, Satoshi Awaji³

¹SuperOx Japan LLC, Japan

²SuperOx, Russia

³Tohoku University, Japan

1-MP-FP2-S16

Improved in-field superconducting properties by clustered atom-replaced pins

Takeshi Araki¹, Mariko Hayashi², Hiroataka Ishii², Daisaku Yokoe³, Ryuji Yoshida³, Takeharu Kato³, Gen Nishijima⁴, Akiyoshi Matsumoto⁴

¹Toshiba Corporation, Japan

²Corporate Research and Development Center, Toshiba Corporation, Japan

³Nanostructures Research Laboratory, Japan Fine Ceramics Center, Japan

⁴Research Center for Functional Materials, National Institute for Materials Science, Japan

1-MP-FP2-S17

Large scale defects for pinning modification of YBCO thin films

Antony Jones¹, Simon KH Lam², Jia Du², Alexey V Pan³

¹University of Wollongong, CSIRO Manufacturing, Australia

²CSIRO Manufacturing, Australia

³University of Wollongong, Australia

1-MP-FP2-S18

Systematic study of RE ion size variance on pinning at high fields at <30K

May Hsim Lai¹

¹University of Cambridge, SuNAM Co. Ltd, United Kingdom

1-MP-SPR - Superconducting Materials Properties

Chairs: Simon Hopkins, European Organization for Nuclear Research (CERN) and Jan Srpcc, University of Cambridge

1-MP-SPR-I01

Fabrication and characterizations of superconducting magnetic shield by C.C.

Takato Machi¹, Akira Ibi¹, Teruo Izumi¹

¹National Institute of Advanced Industrial Science and Technology (AIST), Japan

1-MP-SPR-S02**Lattice dynamics in REBCO superconductors probed by synchrotron XPCS**

Andrea Augieri¹, Francesco Rizzo¹, Mario Reiser², Alessandro Ricci³, Fabio Fabbri¹, Antonella Mancini¹, Valentina Pinto¹, Achille Angrisani Armenio¹, Angelo Vannozzi¹, Alessandro Rufoloni¹, Laura Piperno⁴, Andrea Masi⁴, Giuseppe Celentano¹, Gaetano Campi⁵

¹ENEA Frascati Research Centre, Italy

²European XFEL, Holzkoppel 4, 22869 Schenefeld Germany, Germany

³Rome International Center for Materials Science, RICMASS, via dei Sabelli 119A, I-00185 Roma, Deutsches Elektronen-Synchrotron DESY, Notkestraße 85, D-22607 Hamburg, Germany, Italy

⁴Roma Tre University, Engineering Department, Italy

⁵CNR - National Research Council, Institute of Crystallography, Italy

1-MP-SPR-S03**Transport current distribution in soldered joint of BSCCO and REBCO tapes**

Noriko Chikumoto¹, Satarou Yamaguchi², Oleg Shyshkin³

¹Center of Applied Superconductivity and Sustainable Energy Research, Japan

²Center of Applied Superconductivity and Sustainable Energy Research, Chubu University, Japan

³V.N.Karazin Kharkiv National University, Ukraine

1-MP-SPR-I04**Design and construction of a torque magnetometer for large size superconductors**

Sébastien Brialmont¹, Jean-François Fagnard¹, Philippe Vanderbemden¹

¹Montefiore institute - University of Liège, Belgium

1-MP-SPR-S05**Analysis of an electromagnetic method to measure AC losses in HTS tapes**

Marco Breschi¹, Fabio Filicori¹, Andrea Musso¹, Gaetano Pasini¹

¹Department of Electrical, Electronic and Information Engineering, University of Bologna, Italy

1-MP-SPR-S06**Nanometer scale point contact spectroscopy achieved via resistive switching**

Mária Dvoranová¹, Tomáš Plecenik¹, Martin Moško¹, Marek Vidiš¹, Maroš Gregor¹, Tomáš Roch¹, Branislav Grančič¹, Leonid Satrapinskyy¹, Peter Kúš¹, Andrej Plecenik¹

¹Department of Experimental Physics, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovakia

1-MP-SPR-S07**System integration and commissioning of cryogenic mass flow meter WEKASENSE**

Miralem Okanovic¹, Pascal Erni¹, Michael Börsch¹, Johannes Drache¹, Umberto Gambardella², Domenico D'Agostino², Gerardo Iannone²

¹WEKA AG, Switzerland

²INFN - Istituto Nazionale di Fisica Nucleare, Italy

1-MP-SPR-I08**Joining condition dependency of joint resistance in UW of HTS tapes with indium**

Satoshi Ito¹, Ryoichiro Hayasaka¹, Yutaka S. Sato², Hidetoshi Hashizume¹

¹Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

²Department of Materials Processing, Graduate School of Engineering, Tohoku University, Japan

1-MP-SPR-S09

Ultrafast kinematic vortices in mesoscopic superconductors: self-field effects

Alexssandre de Oliveira Junior¹, Alice Presotto², Leonardo Cadorim², Rafael Zadorosny², Edson Sardella²

¹UNICAMP - Campinas State University, Brazil

²UNESP - São Paulo State University, Brazil

1-MP-SPR-S10

Impact of non-uniform inductance on parallel HTS tapes current distribution

Sriharsha Venuturumilli¹, Min Zhang¹, Weijia Yuan¹

¹University of Strathclyde, United Kingdom

1-MP-SPR-S11

Characterization of AlMn Alloys Superconducting Film

Wentao Wu¹, Yue Lv², Jianguo Chen², Hubing Wang², Bo Gao², Zhen Wang²

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, CAS Center for Excellence in Superconducting Electronics (CENSE), bState Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Micro, China

²Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

1-MP-SPR-S12

Magnetic field penetration experiment

Daniel Turner¹, Graeme Burt², Tobias Junginger³, Oleg Malyshev⁴

¹Cockcroft institute - Daresbury Laboratory, Lancaster Engineering Department, United Kingdom

²Daresbury Laboratory, Lancaster Engineering Department, United Kingdom

³Lancaster University, United Kingdom

⁴Daresbury Laboratory, United Kingdom

1-MP-SPR-S13

Residual strain in composite superconductors

Christian Scheuerlein¹, Mark Rikel², Michael Hofmann³, Najib Cheggour⁴

¹CERN, Switzerland

²Deutsche Nanoschicht GmbH, Germany

³Forschungsneutronenquelle Heinz Maier-Leibnitz (FRM II), TU München, Germany

⁴Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

1-MP-SPR-S14

Oxygen in superconductors

Sergei Obukhov¹

¹A.F.Ioffe PTI Saint Petersburg, Russia

1-MP-SPR-S15

The effects of high energy milling on Ba122 polycrystalline bulks

Shinnosuke Tokuta¹, Akiyasu Yamamoto¹, Yusuke Shimada², Satoshi Hata³

¹Tokyo University of Agriculture and Technology, JST-CREST, Japan

²Tohoku University, JST-CREST, Japan

³Kyushu University, JST-CREST, Japan

1-MP-SPR-S16**Magnetic field dynamics inside a thin-walled superconducting tube**Vilius Vertelis¹, Saulius Balevicius², Markus Schneider³¹French-German Research Institute of Saint-Louis, France, Center for Physical Sciences and Technology, Lithuania²Center for Physical Sciences and Technology, Lithuania³French-German Research Institute of Saint-Louis, Germany**1-MP-SPR-S17****Electro-mechanical properties of high temperature superconducting tapes**Oleg Kirichek¹, Marat Gaifullin², Sergey Lee², Joe Kelleher¹, Beth Evans¹, Maksym Myronov³, Richard Down¹¹ISIS, STFC, Rutherford Appleton Laboratory, United Kingdom²SuperOx Japan LLC, Japan³Department of Physics, The University of Warwick, United Kingdom**1-MP-SPR-S18****Additional AC loss of three-strand parallel conductors composed of REBCO tapes**Shun Miura¹, Takuma Furukawa¹, Masataka Iwakuma¹¹Kyushu University, Japan**1-MP-SPR-S19****A study of AC loss of CICC by comparative calculation**Yuxiang He¹, Jinggang Qin²¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China²Institute of Plasma Physics Chinese Academy of Sciences, China**1-MP-SPR-S20****Thermo-mechanical inspection of a superconducting coil using DIC down to 20 K**Wendell Bailey¹¹University of Southampton, United Kingdom1530-1615 **Refreshments & Exhibition**

HALLS 1 & 2

Oral Session 2

1615-1815

1615-1815 **1-EO-NW - Nanowire Detectors**

ROOM: CLYDE AUDITORIUM

Chairs: Döndü Sahin, University of Bristol and
Alexander Korneev, Moscow Institute of Physics
and Technology (State University)

- 1615 **1-EO-NW-011**
YBCO nanowires for fundamental studies and single photon detector applications
Floriana Lombardi¹
¹Quantum Device Physics Laboratory, Department of Microtechnology and Nanoscience, Chalmers University of Technology, Sweden
- 1645 **1-EO-NW-025**
Demonstration of NbTiN SNSPD array with reduced readout lines
Shigehito Miki¹, Masahiro Yabuno¹, Shigeyuki Miyajima¹, Hirotaka Terai¹
¹National Institute of Information and Communications Technology, Japan
- 1700 **1-EO-NW-035**
Hot-spot correlation length for SNSPDs with near-unity detection efficiency
Gregory Goltsman¹, Margaret Polyakova¹, Alexander Semenov¹, Vadim Kovalyuk¹, Simone Ferrari², Wolfram Pernice²
¹Moscow State Pedagogical University, Russia
²University of Munster, Germany
- 1715 **1-EO-NW-045**
Supercontinuum single photon detector using multilayer superconducting nanowires
Hao Li¹, Yong Wang¹, Lixing You¹, Weijun Zhang¹, Zhen Wang¹
¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences,
- 1730 **1-EO-NW-055**
Statistics of dark and photon counts in current-carrying superconducting strips
Alexej Semenov¹, Mariia Sidorova¹, Artem Kuzmin², Steffen Doerner², Konstantin Ilin², Michael Siegel²
¹DLR Institute of Optical Systems, Germany
²Institute of Micro and Nanoelectronic Systems, Karlsruhe Institute of Technology, Germany
- 1745 **1-EO-NW-065**
Superconducting detectors fabricated using precision dislocation engineering
Ilya Charaev¹, Glenn Martinez¹, Andrew Dane¹, Reza Baghdadi¹, Marco Colangelo¹, Karl K. Berggren¹
¹Massachusetts Institute of Technology, United States of America
- 1800 **1-EO-NW-075**
NbN and MgB₂ SNSPDs: a comparative study
Sergey Cherednichenko¹
¹Chalmers University of Technology, Sweden

1615-1815	1-MO-SCC - Industrial Developments in Coated Conductors [SPECIAL SESSION]	ROOM: FORTH
	Chairs: Xavier Obradors, ICMA B Barcelona and Venkat Selvamanickam, University of Houston	
1615	1-MO-SCC-01S Long length, high performance HTS coated conductors for ultra-high fields <u>Ulrich Betz</u> ¹ , Claus Schoellhorn ¹ , Sonja Noll-Baumann ¹ , Alexander Usoskin ¹ , Klaus Schlenga ¹ ¹ Bruker HTS GmbH, Germany	
1630	1-MO-SCC-02S Industrial scale 40mm production technology at Deutsche Nanoschicht Michael Baecker ¹ , Ron Feenstra ¹ , Mariusz Mosiadz ¹ , Brygida Wojtyniak ¹ , Jan Kunert ¹ , Oliver Brunkahl ¹ , Mark Rikel ¹ , Martina Falter ¹ , Mario Sadewasser ¹ ¹ Deutsche Nanoschicht GmbH, Germany	
1645	1-MO-SCC-03S Recent progress of 2G HTS wires at Fujikura <u>Masanori Daibo</u> ¹ , Shinji Fujita ¹ , Yutaka Adachi ¹ , Kazuomi Kakimoto ¹ , Wataru Hirata ¹ , Yasuhiro Iijima ¹ ¹ Fujikura Ltd., Japan	
1700	1-MO-SCC-04S Progress in Mass-production and R&D for 2G HTS Wires in Shanghai Superconductor Guangyu Jiang ¹ , Yue Zhao ² , J. M. Zhu ² , C. S. Chen ¹ , W. Wu ² , Z. W. Zhang ² , S. K. Chen ¹ , Z. YHong ² , Z. J. Jin ³ , Y. Yamada ¹ ¹ Shanghai Superconductor Company, China ² Shanghai Superconductor Company, Shanghai Jiao Tong University, China ³ Shanghai Jiao Tong University, China	
1715	1-MO-SCC-05S Present Directions for 2G HTS Wire Development at SuperOx <u>Alexander Molodyk</u> ¹ , Alexey Mankevich ¹ , Anton Markelov ¹ , Valery Petrykin ² , Sergey Lee ² , Svetlana Martynova ¹ , Sergey Samoilnekov ¹ ¹ SuperOx, Russia ² SuperOx Japan LLC, Japan	
1730	1-MO-SCC-06S Progress of 2G HTS (RE)BCO Conductor Development at SuperPower <u>Drew Hazelton</u> ¹ ¹ SuperPower Inc., United States of America	

1745

1-MO-SCC-075**2G HTS Coated Conductors: Process Control Improvements at STI**Jeong-Uk Huh¹, Joseph Chase¹, Daniel DeLeon¹, Marco Mosri¹, Clay Sakewitz¹, Ken Pfeiffer¹¹Superconductor Technologies Inc, United States of America

1800

1-MO-SCC-085**Recent improvements of ReBCO wire production at THEVA**Werner Prusseit¹, Markus Bauer¹, Veit Große¹, Markus Bendele¹¹THEVA Dünnschichttechnik GmbH, Germany

1615-1815

1-MO-BK1 - Bulk materials 1**ROOM: GALA**Chairs: Hiroyuki Fujishiro, Iwate University
and David Cardwell, University of Cambridge

1615

1-MO-BK1-011**A Hybrid Trapped Field Magnet Lens (HTFML): concept and realization**Hiroyuki Fujishiro¹, Mark Ainslie², Sora Namba¹, Tomoyuki Naito¹, Keita Takahashi¹, Difan Zhou³¹Department of Physical Science and Materials Engineering, Faculty of Science and Engineering, Iwate University, Japan²Bulk Superconductivity Group, Department of Engineering, University of Cambridge, United Kingdom³Department of Physics, Shanghai University, China

1645

1-MO-BK1-025**Effect of Gd-211 on superconducting properties of GdBCO on a macro & micro-scale**Devendra Kumar Namburi¹, Yunhua Shi², Kai Yuan Huang², Mark D Ainslie², Jan Srpcić², Anthony R Dennis², David A Cardwell², John H Durrell²¹University of Cambridge, United Kingdom²Department of Engineering, University of Cambridge, United Kingdom

1700

1-MO-BK1-035**Stoichiometry inhomogeneity and intergrain connectivity in K-doped Ba122 bulks**Fumitake Kametani¹, Yi-Feng Su¹, Chongin Pak¹, Shah Alam Limon¹, Chiara Tarantini¹, Eric Hellstrom¹, David Larbalestier¹¹Florida State University, National High Magnetic Field Laboratory, United States of America

- 1715 **1-MO-BK1-04S**
Cross-field demagnetization of 2G HTS stacks for high number of cycles
Anang Dadhich¹, Milan Kapolka¹, Enric Pardo¹, Vicente Climente-Alarcon², Anis Smara², Nikolay Mineev², Lukasz Tomkow², Bartek A Glowacki², Francesco Grilli³
¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
²Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom
³Karlsruhe Institute of Technology (KIT), Germany
- 1730 **1-MO-BK1-05S**
Engineering a nano-scale dispersion of artificial pinning centres in MgB2 bulks
Guillaume Matthews¹, Sajjad Amirkhanlou¹, Timothy Davies¹, Laura Wheatley¹, Chris Grovenor¹, Susannah Speller¹
¹University of Oxford, United Kingdom
- 1745 **1-MO-BK1-06S**
High field superconductivity in C-doped MgB2 prepared by a rapid synthesis route
Davide Matera¹, Marco Bonura¹, Florin Buta¹, David Leboeuf², Radovan Cerny¹, Enrico Giannini¹, Carmine Senatore¹
¹DQMP, University of Geneva, Switzerland
²French National High Magnetic Field Laboratory (LNCMI), France
- 1800 **1-MO-BK1-07S**
Trapped field properties of single domain GdBCO bulk and ring superconductors
Wanmin Yang¹
¹Department of Physics, Shaanxi Normal University, Xi'an, China

1615-1815 1-LO-SFC - Superconducting FCL
ROOM: CARRON

Chairs: Jie Sheng, Shanghai Jiao Tong University
 and Pascal Tixador, Université Grenoble Alpes –
 CNRS Grenoble INP

- 1615 **1-LO-SFC-01I**
Tests of a 10 kV 10 kA DC Resistive Type Superconducting Fault Current Limiter
Bin Xiang¹, Lei Gao¹, Zhiyuan Liu¹, Yingsan Geng¹, Jianhua Wang¹, Satoru Yanabu¹
¹Xi'an Jiaotong University, China
- 1645 **1-LO-SFC-02S**
Design and Testing a 160 kV/ 1 kA DC Superconducting Fault Current Limiter
 Shaotao Dai¹, Tao Ma¹, Lei Hu¹, Bangzhu Wang¹, Teng Zhang¹
¹Beijing Jiaotong University, China

1700

1-LO-SFC-03S

Development of 150 V/m HTS conductor for fault current limitation

Guillaume Escamez¹, Alexandre Zampa², Christian Eric Bruzek¹, Veit Grosse³, Bertrand Dutoit⁴, Frédéric Sirois⁵, Christian Lacroix⁵, Markus Bauer³, Pascal Tixador²

¹Supergrid Institute, France

²Université Grenoble Alpes, France

³THEVA GmbH, Germany

⁴EPFL, France

⁵Polytechnique Montreal, Canada

1715

1-LO-SFC-04S

Development of SFCL for a Four-terminal ± 160 kV MMC-HVDC Network

Chao Yang¹, Ziqiang Wei¹, Ying Xin¹, Leishi Xiao², Chao Sheng²

¹School of Electrical and Information Engineering, Tianjin University, China

²Electric Power Research Institute of Guangdong Power Grid Company, China

1730

1-LO-SFC-05S

Current flow diverted coated conductors for advanced fault current limiters

Pedro Barusco¹, Xavier Granados¹, Christian Lacroix², Frédéric Sirois², Roxana Vlad³, Alberto Calleja³, Veit Grosse⁴, Markus Bauer⁴, Roland Gyráki⁵, Mathias Noe⁵, Xavier Obradors¹, Teresa Puig¹

¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain

²Polytechnique Montréal, Canada

³Oxolutia SL, Spain

⁴THEVA GmbH, Germany

⁵KIT - Institute for Technical Physics (ITEP), Germany

1745

1-LO-SFC-06S

Recovery Performance of Partially-Joined Porous-Stabilized REBCO Tape for RFCL

Kohei Yuki¹, Satoshi Ito¹, Hidetoshi Hashizume¹

¹Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

1800

1-LO-SFC-07S

Fault Current Limitation Coordination of Multiple SFCLs in IEEE 14-Bus System

Naoki Hayakawa¹, Yuji Mori¹, Hiroki Kojima¹

¹Nagoya University, Japan

1615-1815 **1-LO-AM1 - Accelerator Magnets 1**

ROOM: DOCHART

Chairs: Luca Bottura, CERN and Nikolay Bykovskiy, CERN

1615

1-LO-AM1-011**Recent progress on CORC® cable, wire and magnet development**

Danko van der Laan¹, Jeremy Weiss¹, Drew Hazelton², Tim Mulder³, Herman ten Kate³, Xiaorong Wang⁴, Hugh Higley⁴, Soren Prestemon⁴, Ramesh Gupta⁵, Dima Abraimov⁶

¹Advanced Conductor Technologies, University of Colorado, United States of America

²SuperPower Inc., United States of America

³CERN, Switzerland

⁴Lawrence Berkeley National Laboratory, United States of America

⁵Brookhaven National Laboratory, ⁶Brookhaven National Laboratory

⁶ASC-NHML, United States of America

1645

1-LO-AM1-025**Characterisation of high current density REBCO tape of the H2020-ARIES program**

Lucio Rossi¹, Ulrich Betz², Carmine Senatore³, Alexander Usoskin², Luca Bottura¹

¹CERN, Switzerland

²Bruker HTS GmbH, Germany

³University of Geneva, Switzerland

1700

1-LO-AM1-035**Magnetic design of twin aperture cos-theta dipoles with a semi-analytic approach**

Alessandro Maria Ricci¹, Pasquale Fabbicatore², Stefania Farinon²

¹Università di Genova, INFN sezione di Genova, Italy

²INFN sezione di Genova, Italy

1715

1-LO-AM1-045**Development of the superconducting dipole magnet for the CBM detector**

Aleksei Bragin¹

¹Budker Institute of Nuclear Physics, Russia

1730

1-LO-AM1-055**Standalone Cold Testing of a High Performance HTS Insert-Magnet**

Jeroen van Nugteren¹, Glyn Kirby², Jaakko Murtomaeki², Douglas Martins Araujo², Thomas Nes², Gijs de Rijk², Jacky Mazet², Francois-Olivier Pincot², Juan-Carlos Perez², Matthieu Canale², Luca Gentini², Antonella Chiuchoilo², Bernardo Castaldo², Luca Palmieri³, Gerard Willering², Marta Bajko², Lucio Rossi²

¹CERN TE-MS-CMDT, Switzerland

²CERN, Switzerland

³University of Padova, Italy

MONDAY

1745

1-LO-AM1-06S

Detector Magnets for the Future Circular Collider ee,eh,hh Experiments

Herman ten Kate¹, Alexey Dudarev¹, Benoit Cure¹, Helder Silva¹

¹CERN, Switzerland

1800

1-LO-AM1-07S

Assembly and Test of the HL-LHC Orbit Corrector based on Canted Cos-Theta design

Glyn Kirby¹, Jeroen Van-Nugteren¹, Matthias Mentink¹, Matthieu Canale¹, Luca Gentini¹, Jacky Mazet¹, Francois-Olivier Pincot¹, Lucio Fiscarelli¹, Jens Steckert¹, Gert-Jan Coelingh¹, Juan.Carlos Perez¹, Arjan Verweij¹, Ezio Todesco¹, Lucio Rossi¹

¹CERN, Switzerland

1615-1815

1-MO-N3T - Nb3Sn

ROOM: M2 & M3

Chairs: Chiara Tarantini, NHMFL Tallahassee and Carmine Senatore, University of Geneva

1615

1-MO-N3T-01I

Recent advances in high field performance of Nb3Sn conductors

Chiara Tarantini¹, Shreyas Balachandran¹, Peter J. Lee¹, Benjamin Walker¹, Nawaraj Paudel¹, William L. Starch¹, David C. Larbalestier¹

¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

1645

1-MO-N3T-02S

Tube type strands with and without artificial pinning center (APC) in Hyper Tech

Xuan Peng¹, Xingchen Xu², Jacob Rochester³, Mike Sumption³, Matt Rindfleisch¹, Mike Tomsic¹

¹Hyper Tech Research Inc., United States of America

²Fermi Lab, United States of America

³The Ohio State University, United States of America

1700

1-MO-N3T-03S

Binary and Ta-doped Nb3Sn wires with internally oxidized ZrO2 particles

Florin Buta¹, Marco Bonura¹, Davide Matera¹, Amalia Ballarino², Simon C. Hopkins², Bernardo Bordini², Xavier Chaud³, Carmine Senatore¹

¹University of Geneva, Switzerland

²CERN, Switzerland

³French National High Magnetic Field Laboratory, France

- 1715 **1-MO-N3T-04S**
Achieving the FCC target with APCs: microstructural and magnetic investigation
 Stephan Pfeiffer¹, Michael Stöger-Pollach¹, Johannes Bernardi¹, Mattia Ortino², Thomas Baumgartner², Mike Sumption³, Xingchen Xu⁴, Xuan Peng⁵, Amalia Ballarino⁶, Simon C. Hopkins⁶, Michael Eisterer²
¹USTEM, TU Wien, Austria
²Atominstitut, TU Wien, Austria
³Center for Superconducting and Magnetic Materials, The Ohio State University, United States of America
⁴Fermi National Accelerator Laboratory, United States of America
⁵Hyper Tech Research Incorporated, United States of America
⁶CERN, Switzerland
- 1730 **1-MO-N3T-05S**
Searching in the Nb3Sn Irreversible Strain Regime for Useful Information
 Najib Cheggour¹, Theodore C. Stauffer², William Starch³
¹University of Colorado Boulder, National Institute of Standards and Technology, United States of America
²National Institute of Standards and Technology, United States of America
³Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America
- 1745 **1-MO-N3T-06S**
Phase and volume changes during reaction heat treatment of Nb3Sn wires
 Christian Scheuerlein¹, Matthias Michels¹, Friedrich Lackner¹, Christian Meyer², Jerome Andrieux³, Rodica Chiriac³, Francois Toche³, Matthias Hagner⁴
¹CERN, Switzerland
²Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
³Université Claude Bernard Lyon, France
⁴University of Konstanz, Germany
- 1800 **1-MO-N3T-07S**
Field dependence of the irreversible stress limit in high-Jc Nb3Sn wires
 Carmine Senatore¹, Luc Gamperle¹, Christian Barth², Jose Ferradas Troitino³, Bernardo Bordini², Davide Tommasini²
¹University of Geneva, Switzerland
²CERN, Switzerland
³University of Geneva, CERN, Switzerland

1815-2000 **Exhibitor Reception & Whisky Tasting**

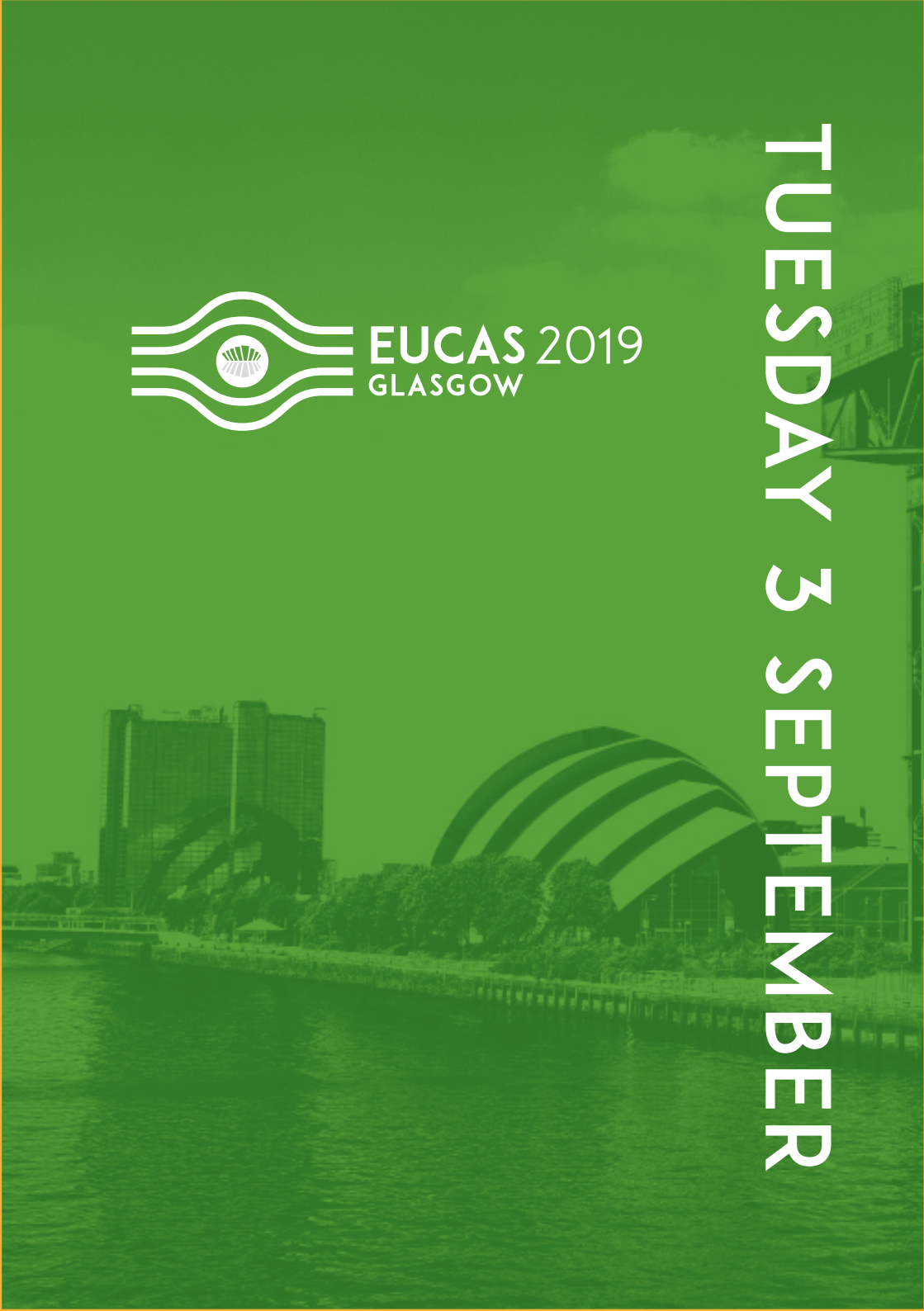
HALLS 1 & 2





EUCAS 2019
GLASGOW

TUESDAY 3 SEPTEMBER



TUESDAY 3 SEPTEMBER

0700-0745 **4.2k Fun Run** **KELVINGROVE PARK**

0845-1000 **2-XO-PL1 ESAS Award for Excellence -
Presentation Ceremony & Lecture** **CLYDE AUDITORIUM**

Chairs: John Durrell, University of Cambridge and Robert Hadfield,
University of Glasgow

**Recent progress of iron-based wire development for high-field
applications**

Yanwei Ma

Institute of Electrical Engineering, Chinese Academy of Sciences, China

1000-1045 **Refreshments & Exhibition** **HALLS 1 & 2**

1045-1245 **Oral Session 3**

1245-1400 **Lunch** **HALLS 1 & 2**

1400-1600 **Poster Session 2** **HALL 2**

1530-1615 **Refreshments & Exhibition** **HALLS 1 & 2**

1615-1815 **Oral Session 4**

1830-2000 **Evening Lecture - James Watt and
Precision Engineering** **CLYDE AUDITORIUM**

Prof John Marsh, School of Engineering,
University of Glasgow

TUESDAY 3 SEPTEMBER

0700-0745 **4.2k Fun Run** – Meet at Lord Kelvin statue Kelvingrove Park

0845-1000 **2-XO-PL1 ESAS Award for Excellence
- Presentation Ceremony & Lecture**

CLYDE AUDITORIUM

Chairs: John Durrell, University of Cambridge and Robert Hadfield,
University of Glasgow

Recent progress of iron-based wire development for high-field applications Yanwei Ma
Institute of Electrical Engineering, Chinese Academy of Sciences, China



Yanwei Ma received his PhD in Materials Processing from Tsinghua University in 1996. Following research associate positions at the Institute for Materials Research, Tohoku University (Japan), National Institute for Materials Science (Japan) and Université de Rennes 1 (France), he joined the Institute of Electrical Engineering, Chinese Academy of Sciences in 2004 as Full Professor. He is Head of the Superconducting Materials Department at IEE-CAS, a large research group that is mostly devoted to the development of MgB₂ and Iron-based superconductor wires. He received the Outstanding Young Research Foundation of NSFC award in 2010. He is a board member of Physica C and Scientific Reports, Associate Editor of the Superconductivity News Forum, and board member of International Cryogenic Materials Conference (ICMC). He has published more than 280 refereed SCI journal papers, and holds more than 40 international and Chinese innovation patents in the fields.

1000-1045 **Refreshments & Exhibition**

HALLS 1 & 2

Oral Session 3

1045-1245

1045-1245 **2-EO-DE1 - Digital Electronics 1**

ROOM: CLYDE AUDITORIUM

Chairs: Emma Mitchell, CSIRO
and Pascal Febvre, Université Savoie Mont Blanc

1045

2-EO-DE1-011

Integration of SFQ circuits with Sensors and Qubits

Oleg Mukhanov¹, A. Kirichenko¹, C. Howington¹, A. Jafari Salim¹, M. Hutchinson¹, J. Walter¹, I. Vernik¹, D. Yohannes¹, A. Opremcak², C.-H. Liu², R. McDermott², K. Dodge³, A. Ballard³, B. Plourde³

¹ SeeQC, Italy

² University of Wisconsin Madison, United States of America

³ Syracuse University

- 1115

2-EO-DE1-021

Recent progress of adiabatic-quantum-flux-parametron circuit technologies

Nobuyuki Yoshikawa¹

¹Yokohama National University, Japan
- 1145

2-EO-DE1-035

A novel stochastic number generator using adiabatic superconducting technology

Olivia Chen¹, Wenhui Luo¹, Ruizhe Cai², Naoki Takeuchi¹, Yanzhi Wang², Nobuyuki Yoshikawa¹

¹Yokohama National Univeristy, Japan

²Northeastern University, United States of America
- 1200

2-EO-DE1-045

Independent Test and Evaluation of C3 Circuits

Adam Sirois¹, Manuel Castellanos-Beltran¹, Paul Dresselhaus¹, Sam Benz¹, Peter Hopkins¹

¹NIST-Boulder, United States of America
- 1215

2-EO-DE1-055

RF Waveform Synthesizer Using RSFQ Circuits

Manuel Castellanos-Beltran¹, David Olaya¹, Adam Sirois¹, Christine Donnelly¹, Paul Dresselhaus¹, Peter Hopkins¹, Samuel Benz¹

¹NIST, United States of America
- 1230

2-EO-DE1-065

Design of a 16-bit bit-slice RSFQ multiplier for 64-bit microprocessors

Jia-Hong Yang¹, Guang-Ming Tang², Xiao-Chun Ye², Dong-Rui Fan², Zhi-Min Zhang², Ning-Hui Sun²

¹State Key Laboratory of Computer Architecture, Institute of Computing Technology, Chinese Academy of Sciences, School of Information and Telecommunication Engineering, Beijing University of Posts and Telecommunications, China

²State Key Laboratory of Computer Architecture, Institute of Computing Technology, Chinese Academy of Sciences, China

1045-1245	2-MO-FT - Fe-based Thin Films	ROOM: FORTH
Chairs: Yanwei Ma, Institute of Electrical Engineering, Chinese Academy of Sciences and Marina Putti, Dipartimento di Fisica, Università degli Studi di Genova		

- 1045

2-MO-FT-011

Ten years of Fe-based Superconductors: are they living up to early expectations?

Valeria Braccini¹

¹CNR - SPIN, Italy

1115

2-MO-FT-021**Jc in Fe-based superconducting films: dimensionality, anisotropy, microstructure**Jens Hänisch¹¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany

1145

2-MO-FT-035**Improvement of the critical current of NdFeAs(O,F) by vicinal substrates**Kazumasa Iida¹, Chiara Tarantini², Takuya Matsumoto³, Keisuke Kondo³, Takafumi Hatano⁴, Sven Meyer⁵, Jens Hänisch⁵, Jan Jaroszynski², Wang Chao⁶, Hikaru Saito⁷, Satoshi Hata⁸, Hiroshi Ikuta³¹Nagoya University, Japan²Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America³Department of Materials Physics, Nagoya University, Japan⁴Department of Materials Physics, Nagoya University, JST CREST, Japan⁵Institute for Technical Physics, Karlsruhe Institute of Technology, Germany⁶The Ultramicroscopy Research Center, Kyushu University, Japan⁷Department of Advanced Materials Science and Engineering, Kyushu University, JST CREST, Japan⁸The Ultramicroscopy Research Center, Kyushu University, Department of Advanced Materials Science and Engineering, Kyushu University, JST CREST, Japan

1200

2-MO-FT-045**Comprehensive microwave study of BaFe2As2 with K, Co, Rh, and P substitutions**Gianluca Ghigo¹, Daniele Torsello¹, Giovanni A. Ummarino², Laura Gozzelino¹, Roberto Gerbaldo¹, Francesco Laviano¹, Tsuyoshi Tamegai³, Makariy A. Tanatar⁴, Ruslan Prozorov⁴, Paul C. Canfield⁴¹Politecnico di Torino, Department of Applied Science and Technology, Istituto Nazionale di Fisica Nucleare, Italy²Politecnico di Torino, Department of Applied Science and Technology, Italy and National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Russian Federation³The University of Tokyo, Department of Applied Physics, Japan⁴Ames Laboratory, US Department of Energy, Department of Physics & Astronomy, Iowa State University, United States of America

1215

2-MO-FT-055**Influence of epitaxial strain on the phase diagram of Ni doped BaFe2As2 films**Stefan Richter¹, Saicharan Aswartham¹, Mira Brandt¹, Vadim Grinenko², Kirill Pervakov³, Aurimas Pukenas⁴, Werner Skrotzki⁴, Bernd Büchner², Kornelius Nielsch², Ruben Hühne¹¹IFW Dresden, Germany²IFW Dresden, TU Dresden, Germany³Russian Academy of Sciences Moscow, Russia⁴TU Dresden, Germany

1230

2-MO-FT-065**Microwave properties of Fe(Se,Te) films in magnetic field: pinning and flux flow**

Nicola Pompeo¹, Andrea Alimenti¹, Kostiantyn Torokhtii¹, Giulia Sylva², Valeria Braccini³, Enrico Silva¹

¹Università Roma Tre, Italy

²University of Genova, Italy

³CNR-SPIN, Italy

1045-1245

2-MO-FP1 - Critical Current and Flux Pinning 1**ROOM: GALA**

Chairs: Giuseppe Celentano, ENEA, Frascati Research Center and Anna Palau, Institut de Ciencia de Materials de Barcelona (ICMAB-CSIC)

1045

2-MO-FP1-011**YBa₂Cu₃O_{7-x} film with Ba₂Y(Nb,Ta)O₆ nanoinclusions for high field applications**

Giuseppe Celentano¹, Francesco Rizzo¹, Andrea Augieri¹, Achille Angrisani Armenio¹, Gianluca De Marzi¹, Antonella Mancini¹, Valentina Pinto¹, Alessandro Rufoloni¹, Angelo Vannozzi¹, Andrea Alimenti², Enrico Silva², Kostiantyn Torokhtii², Nicola Pompeo², Judith Driscoll³, John Feighan³, Ahmed Kursumovic³, Alexander Meledin⁴, Gustaf Van Tendeloo⁵

¹ENEA Frascati Research Centre, Italy

²Engineering Department, Roma Tre University, Italy

³University of Cambridge, Department of Materials Science and Metallurgy, United Kingdom

⁴Central Facility for Electron Microscopy, RWTH Aachen University, Germany, Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons (ER-C), Forschungszentrum Jülich GmbH, 52428 Jülich, Germany, University of Antwerp, EMAT Research Group, Belgium, Germany

⁵University of Antwerp, EMAT Research Group, Belgium

1115

2-MO-FP1-025**Effective Pinning Angular Range by 1D-APC inYBa₂Cu₃O_{7-x}Nanocomposite Films**

Judy Wu¹

¹University of Kansas, United States of America

1130

2-MO-FP1-035**Pinning enhancement in CSD YBCO nanocomposite films with preformed nanocrystals**

Javier Díez Sierra¹, Pedro López-Domínguez¹, Hannes Rijckaert¹, Jonathan De Roo¹, Martina Falter², Jan Bennowitz³, Mark Rikel², Hannu Huhtinen⁴, Jens Hänisch⁵, Petriina Paturi⁴, Michael Bäcker², Isabel Van Driessche¹

¹Ghent University, Belgium

²Deutsche Nanoschicht, Germany

³BASF SE, Germany

⁴University of Turku, Finland

⁵Karlsruhe Institute of Technology (KIT), Germany

- 1145 **2-MO-FP1-04S**
Pinning enhancement in CSD-REBCO-nanocomposites towards high-field applications
 Manuela Erbe¹, Pablo Cayado¹, Wolfram Freitag¹, Martina Falter², Michael Bäcker², Jens Hänisch¹, Bernhard Holzapfel¹
¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany
²Deutsche Nanoschicht GmbH, Germany
- 1200 **2-MO-FP1-05S**
New opportunities to enhance vortex pinning in solution derived YBCO thin films
 Julia Jareño¹, Ziliang Li¹, Laia Soler¹, Juri Banchewski¹, Bernat Mundet¹, Natalia Chamorro², Roger Guzmán¹, Max Sieger¹, Adria Pacheco¹, Mariona Coll¹, Anna Palau¹, Sussagna Ricart¹, Jaume Gazquez¹, Silvia Rasi¹, Jordi Farjas³, Pere Roura³, Ramon Yañez², Josep Ros², Teresa Puig¹, Xavier Obradors¹
¹ICMAB-CSIC, Spain
²Universitat Autònoma de Barcelona (UAB), Spain
³U GIRONA, Spain
- 1215 **2-MO-FP1-06S**
Vortex pinning improved by stacking faults in YBCO films containing nanorods
Tomoya Horide¹, Kaname Matsumoto¹
¹Kyushu Institute of Technology, Japan
- 1230 **2-MO-FP1-07S**
Landscape tuning of PLD YBCO-BYNT0 films for improved vortex pinning efficiency
 Francesco Rizzo¹, Andrea Augieri¹, Achille Angrisani Armenio¹, Antonella Mancini¹, Valentina Pinto¹, Alessandro Rufoloni¹, Angelo Vannozzi¹, Andrea Masi², Laura Piperno², Judith Driscoll³, John Feighan³, Ahmed Kursumovic³, Alexander Meledin⁴, Giuseppe Celentano¹
¹Superconductivity Laboratory, Fusion and Nuclear Security Department - ENEA, Italy
²Università degli studi di Roma Tre, Italy
³University of Cambridge, United Kingdom
⁴University of Aachen, Germany

1045-1245 **2-LO-RM - Rotating Machines**

ROOM: CARRON

Chairs: Konstantin Kovalev, Moscow Aviation Institute
 and Markus Mueller, University of Edinburgh

- 1045 **2-LO-RM-01I**
Results and lessons learned from the 3 MW EcoSwing wind power generator
Markus Bauer¹, Tiemo Winkler¹
¹THEVA Dünnschichttechnik GmbH, Germany

- 1115 **2-LO-RM-02S**
HTS synchronous machine dynamic simulation modelling and comparison with tests
Peter O'Brien¹, Richard Taylor¹
¹Queensland University of Technology, Australia
- 1130 **2-LO-RM-03S**
The general design of a 300-kvar class HTS synchronous condenser prototype
 Peng Song¹, Qihong Wu¹, Zhengjun Shi², Ye Yang³, Luming Zhang⁴, Beimin Wu⁵, Meng Song², Timing Qu¹, Min Zhang⁶
¹Tsinghua University, China
²Electric Power Research Institute of Guangdong Power Grid Corporation, China
³Central Research Institute, Dongfang Electric Corporation Ltd., China
⁴Shanghai Electric Machinery Co., Ltd., China
⁵Institute of Modern Physics, Chinese Academy of Science, China
⁶University of Strathclyde, United Kingdom and Shanghai Jiao tong University, China
- 1145 **2-LO-RM-04S**
HTS rotor coils and joints for high power density rotating machines
Marijn Oomen¹, Joern Grundmann², Michael Frank², Peter Kummeth², Peter van Hasselt², Lars Kuehn²
¹Siemens AG, Corporate Technology, Germany
²Siemens AG, Germany
- 1200 **2-LO-RM-05S**
A Cryo-cooled HTS Dynamo which outputs >1kA
Chris Bumby¹, Andres (Olly) Pantoja¹, Sinhoi Phang¹, Zhenan Jiang¹, Rod Badcock¹
¹Robinson Research Institute, Victoria University of Wellington, New Zealand
- 1215 **2-LO-RM-06S**
Effect of HTS stack sectioning on pulse magnetization efficiency in a motor
Anis Smara¹, Vicente Climente-Alarcon¹, Nikolay Mineev¹, Lukasz Tomkow¹, Bartek A. Glowacki¹
¹University of Cambridge, United Kingdom
- 1230 **2-LO-RM-07S**
Development and testing of 10 kW fully HTS generator
Nickolay Ivanov¹, Konstantin Kovalev¹, Sergey Zhuravlev¹, Julia Nekrasova¹, Denis Rusanov¹, Gennadiy Kuznetsov¹
¹Moscow Aviation Institute, Russia

1045-1245 **2-LO-OM - Specialised Magnets**

ROOM: DOCHART

Chairs: Milan Majoros, The Ohio State University and Ziad Melhem,
Oxford Instruments NanoScience

- 1045 **2-LO-OM-011**
Applied Superconductivity for Medical Accelerators
Arno Godeke¹
¹Varian Medical Systems Particle Therapy GmbH, Germany
- 1115 **2-LO-OM-02S**
Flux Pumping into Large Inductances
Archie Campbell¹
¹University of Cambridge, United Kingdom
- 1130 **2-LO-OM-03S**
Small cryo-cooled no-insulation 2G HTS coils for space propulsion applications
Nicholas Strickland¹, Konstantinos Bouloukakis¹, Max Arshavsky², Nicholas Long¹, Stuart Wimbush¹
¹The Robinson Research Institute of Victoria University of Wellington, New Zealand
²Zenno Astronautics Limited, New Zealand
- 1145 **2-LO-OM-04S**
Manufacture of 7.5 M Long Cryogen-Free Magnet System for Neutron Decay Studies
Zakiya Omar¹
¹Cryogenic Ltd, United Kingdom
- 1200 **2-LO-OM-05S**
Experimental Study on the Quench Characteristics of a Roebel Cable Coil at 77K
Qingbo Zhang¹, Edward Young¹, Lorenzo Cavallucci², Yifeng Yang¹
¹Institute of Cryogenics, University of Southampton, United Kingdom
²University of Bologna, Italy
- 1215 **2-LO-OM-06S**
Magnetic shielding above 0.7 T at 77K with a stack of 2G coated conductor annuli
Philippe Vanderbemden¹, Laurent Wéra¹, Jean-François Fagnard¹, Benoit Vanderheyden¹, Seungyong Hahn², Anup Patel³
¹University of Liege, Belgium
²Seoul National University, South Korea
³University of Cambridge, United Kingdom

1230

2-LO-OM-075

Quench dynamics in different configurations of MgB₂ Rutherford cables

Elena Martínez¹, Rafael Navarro¹, Álvaro Cubero¹, Pavol Kováč², Ľubomír Kopera²

¹Instituto de Ciencia de Materiales de Aragón (CSIC – University of Zaragoza), Spain

²Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia

1245-1400 **Lunch**

HALLS 1 & 2

Poster Session 2

1400-1600

HALL 2

2-EP-DE2 - Digital Electronics 2

Chairs: Eliana Recoba-Pawłowski, LPEM and Coenrad Fourie, Stellenbosch University

2-EP-DE2-I01

Cell Design Methodology and Circuit Theory of RSFQ

Lieze Schindler¹, Coenrad Fourie¹

¹Stellenbosch University, South Africa

2-EP-DE2-I02

High-Speed Operation of a 13-bit 50-sample/period SFQ-based Sine Code Generator

Fei Ke¹, Yuki Yamanashi¹, Thomas Orllepp², Nobuyuki Yoshikawa¹

¹Yokohama National University, Japan

²CiS Research Institute for Microsensor, Germany

2-EP-DE2-I03

Impedance modeling and extraction for highly coupled superconductor circuits

Paul le Roux¹, Coenrad Fourie¹

¹Stellenbosch University, South Africa

2-EP-DE2-I04

Fast RSFQ and ERSFQ Parallel Counters

Mustafa Çelik¹, Timur Filippov¹, Anubhav Sahu¹, Dmitri Kirichenko¹, Saad Sarwana¹, Alf Lehmann¹, Deepnarayan Gupta¹

¹HYPRES, Inc., United States of America

2-EP-DE2-S05

A Compact Voltage Pulse Multiplier for SFQ Circuit Readout

Sasan Razmkhah¹, Ali Bozbeý², Pascal Febvre¹

¹IMEP-LAHC, CNRS UMR5130, Université Savoie Mont Blanc, France

²Department of Electrical and Electronics Engineering, TOBB University of Economics and Technology, Turkey

TUESDAY

2-EP-DE2-S06**Low-latency AQFP logic by using serial-type power dividers**Yuxing He¹, Naoki Takeuchi¹, Nobuyuki Yoshikawa¹¹Institute of Advanced Sciences, Yokohama National University, Japan**2-EP-DE2-S07****Passive Transmission Lines at Ultimate Clock Frequencies of SFQ Circuits**Sasan Razmkhah¹, Pascal Febvre¹¹Université Savoie Mont Blanc, France**2-EP-DE2-S08****The Josephson balanced comparator and its gray zone measurements**Timur Filippov¹, Anubhav Sahu¹, M. Eren Celik¹, Dmitri Kirichenko¹, Deepnarayan Gupta¹¹HYPRES, Inc., United States of America**2-EP-DE2-S09****Static Timing Analysis with Timing Bleed: Certifying Higher Speed for RSFQ Logic**Fangzhou Wang¹, Bo Zhang¹, Massoud Pedram¹, Sandeep Gupta¹¹University of Southern California, United States of America**2-EP-DE2-S10****Quantum-accurate voltage waveform synthesis using Field Programmable Gate Array**Jane Ireland¹, Stephen Protheroe¹, Jonathan Williams¹, Allan Belcher², Ronald Dekker³, Kars Schaapman³, Ricardo Iuzzolino⁴, Rodrigo Melo⁴, Marcos Bierzychudek⁴, Jonas Herick⁵, Oliver Kieler⁵, Ralf Behr⁵¹National Physical Laboratory, United Kingdom²Signal Conversion, United Kingdom³Applicos, The Netherlands⁴INTI, Argentina⁵Physikalisch-Technische Bundesanstalt, Germany**2-EP-DE2-S11****A Compact AQFP Logic Cell Design Using an 8-Metal Layer Superconductor Process**Yuxing He¹, Christopher Ayala¹, Naoki Takeuchi², Taiki Yamae³, Yuki Hironaka³, Nobuyuki Yoshikawa⁴¹Institute of Advanced Sciences, Yokohama National University, Japan²Institute of Advanced Sciences, Yokohama National University, PRESTO, Japan Science and Technology Agency, Japan³Department of Electrical Engineering and Computer Engineering, Yokohama National University, Japan⁴Institute of Advanced Sciences, Yokohama National University, Department of Electrical Engineering and Computer Engineering, Yokohama National University, Japan**2-EP-DE2-S12****A 4-bit binary encoder made from multi-gate nTrons for reading a 15-SNSPD array**Kai Zheng¹, Qing-Yuan Zhao¹, Ling-Dong Kong¹, Shi Chen¹, Hai-Yang-Bo Lu¹, La-Bao Zhang¹, Xiao-Qing Jia¹, Jian Chen¹, Lin Kang¹, Pei-Heng Wu¹¹Nanjing University, China

2-EP-DE2-S13**New superconducting neuromorphic circuits based on quantum phase-slip junctions**Ran Cheng¹, Uday Goteti¹, Michael Hamilton¹¹Auburn University, United States of America**2-EP-DE2-S14****Research on Energy-Efficient Rapid Single Flux Quantum Shift Registers**Liyun Chen¹, Guanqun Li¹, Minghui Niu¹, Yu Wu¹, Yingyi Shao¹, Xiaoping Gao¹, Liliang Ying¹, Jie Ren¹, Zhen Wang¹¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China**2-EP-DE2-S15****A novel architecture of an 8-bit parallel RSFQ microprocessor**KuoZhong Zhang¹, Guang-Ming Tang¹, Zhi-Min Zhang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Ning-Hui Sun¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China**2-EP-DE2-S16****Design of a Control Unit for a Bit-Parallel 8-bit RSFQ Microprocessor**Pei-Yao Qu¹, Guang-Ming Tang¹, Jia-Hong Yang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Zhi-Min Zhang¹, Ning-Hui Sun¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China**2-EP-DE2-S17****Behavior Level Simulation and Logic Synthesis Tools for RSFQ Circuits**Xiang-Yu Zheng¹, Guang-Ming Tang¹, Zhi-Min Tang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Zhi-Min Zhang¹, Ning-Hui Sun¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China**2-EP-DE2-S18****A 16-bit Bit-Slice RSFQ Microprocessor**Wei Xuan¹, Guang-Ming Tang¹, Xin Zhang¹, Zhi-Min Tang¹, Xiao-Chun Ye¹, Ning-Hui Sun¹, Zhi-Min Zhang¹, Dong-Rui Fan¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China**2-EP-DE2-S19****Spiking Neuro Network Development based on RSFQ Circuit Technology**Cui-Cui Zhang¹, Guang-Ming Tang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Zhi-Min Zhang¹, Ning-Hui Sun¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China**2-EP-DE2-S20****An Automatic Schematic Generator for RSFQ digital Design**Rong-Liang Fu¹, Guang-Ming Tang¹, Zhi-Min Zhang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Ning-Hui Sun¹¹Institute of Computing Technology of the Chinese Academy of Sciences, China

2-EP-DE2-S21**Design of Bit-Slice 64-Bit TEA-Decrypt RSFQ Accelerators**

Pei-Shi Yu¹, Guang-Ming Tang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Zhi-Min Zhang¹, Ning-Hui Zhang¹

¹Institute of Computing Technology of the Chinese Academy of Sciences, China

2-EP-DE2-S22**An 8-bit Bit-Slice RSFQ AES Decryption Accelerator**

Yan Zhou¹, Guang-Ming Tang¹, Xiao-Chun Ye¹, Dong-Rui Fan¹, Zhi-Min Zhang¹, Ning-Hui Sun¹

¹Institute of Computing Technology of the Chinese Academy of Sciences, China

2-EP-DE2-S23**High Capacity Fluxon Storage for Microprocessor Design**

Naveen Katam¹, Haipeng Zha¹, Massoud Pedram¹, Murali Annavaram¹

¹University of Southern California, United States of America

2-EP-DE2-S24**Steroid: A High Performance SFQ Architecture Using Dual-bit Boolean Logic**

Naveen Katam¹, Haipeng Zha¹, Massoud Pedram¹, Murali Annavaram¹

¹University of Southern California, United States of America

2-EP-SDP - Superconducting Detectors

Chairs: Leonid Kuzmin, Chalmers University and Jochem Baselmans, SRON Netherlands Institute for Space Research and Delft University of Technology

2-EP-SDP-I01**Hard X-ray Fluorescence measurements with TESs at the Advanced Photon Source**

Tejas Guruswamy¹, Lisa Gades¹, Antonino Miceli¹, Umeshkumar Patel¹, Orlando Quaranta¹

¹Argonne National Laboratory, United States of America

2-EP-SDP-I02**Low Noise MgB₂ HEB Mixers with Nanopatterned Surfaces**

Narendra Acharya¹, Serguei Cheredinchenko¹

¹Chalmers University of Technology, Sweden

2-EP-SDP-S03**Design of a 100-GHz Single Sideband Superconducting SIS Mixer**

Boliang Liu¹, Dong Liu¹, Ming Yao¹, Honghu Li¹, Sheng-Cai Shi¹

¹University of Sciences and Technology of China, Purple Mountain Observatory, Chinese Academy of Sciences, Key Lab of Radio Astronomy, Chinese Academy of Sciences, China

2-EP-SDP-S04

Thermal Kinetic Inductance Detectors suitable for X-ray spectroscopy

Andrea Giachero¹, Angelo Cruciani², Peter. K. Day³, Sergio Di Domizio⁴, Marco Faverzani¹, Elena Ferri¹, Benno Margesin⁵, Renato Mezzena⁶, Angelo Nucciotti¹, Andrei Puiu¹, Marco Vignati²

¹University of Milano - Bicocca, INFN Sezione di Milano-Bicocca, Italy

²INFN - Sezione di Roma1, Italy

³Jet Propulsion Laboratory, United States of America

⁴University of Genoa, INFN - Sezione di Genova, Italy

⁵Fondazione Bruno Kessler (FBK), INFN - Trento Institute for Fundamental Physics and Applications (TIPFA), Italy

⁶University of Trento, INFN - Trento Institute for Fundamental Physics and Applications (TIPFA), Italy

2-EP-SDP-S05

Development of Nb/AlN/NbN Superconducting Mixers for Dome A Terahertz Telescope

Dong Liu¹, Ming Yao¹, Honghu Li¹, Boliang Liu¹, Shengcai Shi¹

¹Purple Mountain Observatory, Chinese Academy of Sciences, China

2-EP-SDP-S06

Characterisation of Kinetic Inductance Detectors with NbN Spiral Resonators

Seiichiro Ariyoshi¹, Shun Negishi¹, Hikaru Mikami¹, Satoru Hashimoto¹, Kensuke Nakajima², Hirotaka Terai³, Saburo Tanaka¹

¹Toyohashi University of Technology, Japan

²Yamagata University, Japan

³National Institute of Information and Communications Technology, Japan

2-EP-SDP-S07

Spectral Filtering with Gratings for Superconducting Detectors in the THz Range

Alexander Schmid¹, Artem Kuzmin¹, Stefan Wuensch¹, Konstantin Ilin¹, Michael Siegel¹

¹Karlsruhe Institute of Technology (KIT), Germany

2-EP-SDP-S08

YBCO Josephson junction coupled with a novel bowtie loaded meander antenna

Mei Yu¹, Haifeng Geng¹, Tao Hua¹, Weiwei Xu¹, Zhi Ning Chen², Jianxin Shi³, Huabing Wang¹, Jian Chen¹, Peiheng Wu¹

¹Nanjing University, China

²National University of Singapore, Singapore

³Zijin College, Nanjing University of Science and Technology, China

2-EP-SDP-S09

Energy resolution of titanium transition-edge sensor single-photon detectors

JiaQiang Zhong¹, Wen Zhang¹, Zheng Wang¹, Yue Geng¹, Peizhan Li¹, Sheng-Cai Shi¹

¹Purple Mountain Observatory, Chinese Academy of Sciences, China

2-EP-SDP-S10

Fabrication of mushroom-type gold absorber for transition edge X-ray detectors

Yue Lyu¹, Wentao Wu¹, Hubing Wang¹, Bo Gao¹, Zhen Wang¹

¹CAS Center for Excellence in Superconducting Electronics (CENSE), China

2-EP-SDP-S11**Evaluation of Mid Infrared Superconducting Hot Electron Bolometer Mixer**

Akira Kawakami¹, Hisashi Shimakage², Junsei Horikawa³, Shunkichi Tanaka¹, Yoshinori Uzawa⁴

¹National Institute of Information and Communications Technology, Japan

²Ibaraki University, Japan

³Fukui College, Japan

⁴National Astronomical Observatory of Japan, Japan

2-EP-SDP-S12**High temperature superconducting bolometer for THz detection at LN2 temperature**

Andrea Napolitano¹, Samuele Ferracin¹, Gianluca Ghigo¹, Laura Gozzelino¹, Daniele Torsello¹, Francesco Laviano¹, Roberto Gerbaldo¹

¹Politecnico di Torino, Italy

2-EP-SDP-S13**Superconductor to resistive state switching by multiple events in NbTiN SNSPDS**

Daniela Salvoni¹

¹Univeristy of Naples Federico II, Italy

2-EP-SDP-S14**Josephson junction based single photon microwave detector for axion detection**

Sergio Pagano¹, Giovanni Filatrella¹

¹Physics Department, University of Salerno and INFN gc, Italy

2-EP-TMP - Terahertz and Microwave Devices

Chairs: Tahashi Noguchi, RIKEN/NAOJ and Maciej Zgierski, Institute of Physics of Polish Academy of Sciences

2-EP-TMP-I01**A superconducting flux-flow oscillator of terahertz range**

Nickolay Kinev¹, Kirill Rudakov², Lyudmila Filippenko¹, Mikhail Fominskiy¹, Andrey Baryshev³, Valery Koshelets¹

¹Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russia

²Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russia and University of Groningen, The Netherlands

³University of Groningen, The Netherlands

2-EP-TMP-S02**Modeling the Resonance Shifts Due to Coupling Between HTS Coils in NMR Probes**

Jeremy Thomas¹, William Brey², Vijaykumar Ramaswamy³, Daniel Belc¹, Taylor Johnston¹, Nicolas Freytag³, Lawrence Hornak⁴, Arthur Edison⁴

¹Florida State University, United States of America

²National High Magnetic Field Laboratory, United States of America

³Bruker Corporation, United States of America

⁴University of Georgia, United States of America

2-EP-TMP-S03

Design of Microwave Antenna Using HTS thick disk for Wireless Power Transfer

Atsushi Saito¹, Kotaro Irie¹, Naoto Sekiya², Satoshi Ono³, Masanori Takeda⁴, Kensuke Nakajima¹

¹Graduate School of Science and Engineering, Yamagata University, Japan

²Integrated Graduate School of Medicine, Engineering, and Agricultural Sciences Faculty of Engineering, University of Yamanashi, Japan

³The University of Electro-Communications, Japan

⁴Graduate School of Engineering, Shizuoka University, Japan

2-EP-TMP-S04

Nonlinear intermode coupling in Nb microwave resonator with Josephson elements

Marat Khabipov¹, Maikel Petrich¹, Judith Felgner¹, Ralf Dolata¹, Alexander Zorin¹

¹Physikalisch-Technische Bundesanstalt, Germany

2-EP-TMP-S05

Hybrid superconducting-ferromagnetic circuits with on-chip controllable coupling

Sergey Danilin¹, Valentino Seferai¹, Paul Baity¹, Dmytro Bozhko¹, Umberto Nasti¹, Alessandro Casaburi¹, Robert Hadfield¹, Martin Weides¹

¹School of Engineering, United Kingdom

2-EP-TMP-S06

Magnon spectroscopy of YIG films using superconducting resonators

Paul Baity¹, Dmytro Bozhko¹, Sergey Danilin¹, Valentino Seferai¹, Umberto Nasti¹, Alessandro Casaburi¹, Robert Hadfield¹, Martin Weides¹

¹University of Glasgow, United Kingdom

2-EP-TMP-S07

PIN Diode High Temperature Superconducting Limiting Filter

Jia Wang¹, Liang Sun¹, Yun Wu¹, Jinhao Dai¹, Xu Wang¹, Xueqiang Zhang¹, Guoqiang Li¹, Chunguang Li¹, Hong Li¹, Yusheng He¹

¹Institute of Physics Chinese Academy of Sciences, China

2-EP-TMP-S08

Development of superconducting pick-up coil for 40-MHz solid-state NMR

Kotaro Irie¹, Haruki Hoshi¹, Shohe Oda¹, Atsushi Saito¹, Masato Takahashi²

¹Graduate School of Science and Engineering, Yamagata University, Japan

²NMR Science and Development Division, RIKEN SPring-8 Center, Japan

2-EP-TMP-S09

Active superconductor antennas for wide band receivers

Victor K. Kornev¹, Nikolay V. Kolotinskiy², Daniil E. Bazulin¹

¹Department of Physics, Lomonosov Moscow State University, Russia

²Department of Physics, Lomonosov Moscow State University, Quantum Technology Centre, Department of Physics, Lomonosov Moscow State University, Russia

2-EP-TMP-S10**Cooper pair – phonon coupling using surface acoustic wave resonators**

Sergey Kafanov¹, Yuri Pashkin¹, Jonathan Collins², Erik Jellyman¹, Andrew Guthrie¹, Alessandro Casaburi²

¹Lancaster University, United Kingdom

²School of Engineering, University of Glasgow, United Kingdom

2-EP-TMP-S11**A versatile three-wave mixing Josephson traveling-wave parametric amplifier**

Christoph Kissling¹, Marat Khabipov¹, Ralf Dolata¹, Judith Felgner¹, Alexander Zorin¹

¹Physikalisch-Technische Bundesanstalt, Germany

2-EP-TMP-S12**Pulse propagation in Josephson junction array-based RF waveform synthesizers**

Peter Hopkins¹, Christine Donnelly², Justus Brevik¹, Anna Fox¹, Paul Dresselhaus¹, Samuel Benz¹

¹Quantum Electromagnetics Division, National Institute of Standards and Technology, United States of America

²Quantum Electromagnetics Division, National Institute of Standards and Technology, Department of Electrical Engineering, Stanford University, United States of America

2-EP-TMP-S13**Josephson Parametric Amplifier in Readout of a Superconducting Qubit**

Yapeng Lu¹, Weiwei Xu¹, Yongchao Li¹, Jiazheng Pan¹, Tao Hua¹, Jianxin Shi¹, Guozhu Sun¹

¹Nanjing University, China

2-EP-TMP-S14**Extension of coupled mode theory for parametric amplification**

Thomas Dixon¹

¹Royal Holloway, NPL, United Kingdom

2-LP-CO - Cooling, Insulation, Heat Transfer

Chair: Alain Ravex, CryoConsult

2-LP-CO-I01**Thermal Transport Properties of Multiple OHP under Simultaneous Operation**

Akifumi Kawagoe¹, Naohiro Nagamoto¹, Toshiyuki Mito², Yuta Onodera², Kazuya Takahata², Nagato Yanagi², Shinji Hamaguchi², Suguru Takata²

¹Kagoshima University, Japan

²NIFS, Japan

2-LP-CO-I02**Refrigerant circulation system for cooling a HTS coil**

Yunzhi Xie¹, Setsura Nagai¹, Tetsuji Okamura¹, Naoki Hirano², Yoshikatsu Hiratsuka³

¹Tokyo Institute of Technology, Japan

²Chubu Electric Power Co., Ltd, Japan

³Sumitomo Heavy Industries, Ltd., Japan

2-LP-CO-S03

Influence of Subcooling on Breakdown and Prebreakdown in Heated Liquid

Nitrogen

Raphaël Chassagnoux¹, Olivier Lesaint², Nelly Bonifaci², Olivier Gallot-Lavallee², Pierre Legendre³, Christophe Creusot³, Alain Girodet³

¹SuperGrid Institute SAS, G2Elab, France

²G2Elab, France

³SuperGrid Institute SAS, France

2-LP-CO-S04

Dielectric Strength of Insulating Material in LN2 with Thermally Induced Bubbles

Dirk Gromoll¹, Ralph Schumacher¹, Christof Humpert²

¹Institute of Electrical Power Engineering, TH Köln - University of Applied Sciences, Germany

²Institute of Electrical Power Engineering, TH Köln - University of Applied Sciences, Cologne Institute for Renewable Energy (CIRE), TH Köln - University of Applied Sciences, Germany

2-LP-CO-S05

Directional control of arcs in LN2 using externally biased magnetic fields

Muhammad Junaid¹, Lei Gao¹, Hongxu Li¹, Bin Xiang¹, Zhiyuan Liu¹, Yingsan Geng¹, Jianhua Wang¹

¹State Key Laboratory of Electrical Insulation and Power Equipment, School of Electrical Engineering, Xi'an Jiaotong University, China

2-LP-CO-S06

Electrical Treeing Characteristics in Epoxy under Electro-magnetic Coupled Field

Boxue Du¹, Mingyang Wang¹, Xuetao Han¹, Jin Li¹, Zhonglei Li¹

¹Tianjin University, China

2-LP-CO-S07

Polarity Effect on DC Breakdown Characteristics of LN2/Insulation Film System

Lei Gao¹, Bin Xiang¹, Zhiyuan Liu¹, Yingsan Geng¹, Jianhua Wang¹, Satoru Yanabu¹

¹State Key laboratory of Electrical Insulation and Power Equipment, China

2-LP-CO-S08

Basic research of HTS coil cooling assist technology by magnetic refrigeration

Naoki Hirano¹, Setsura Nagai², Yunzhi Xie², Tetsuji Okamura²

¹National Institute for Fusion Science, Japan

²Tokyo Institute of Technology, Japan

2-LP-CO-S09

Heat extraction from surface mounted HTS stacks in different cooling conditions

Nikolay Mineev¹, Lukasz Tomkow¹, Anis Smara¹, Vicente Climente-Alarcon¹, Bartek Glowacki²

¹Applied Superconductivity and Cryoscience Group, Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom

²Institute of Power Engineering, Poland and Applied Superconductivity and Cryoscience Group, Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom

2-LP-CO-S10**A new way to solve the critical current degradation of YBCO coils by ice**Yunfei Tan¹¹Huazhong University of Science and Technology, China**2-LP-CO-S11****2K (ABS ZERO) Stochastic/Harmonic Helium Distillation**Charles E Janeke¹¹American Association Airconditioning Engineers, United States of America**2-LP-CO-S12****Analysis of -Graded Spacer for HVAC GHe Insulated Superconducting Pipelines**Jin Li¹, Boxue Du¹, Hucheng Liang¹, Jinpeng Jiang¹, Xiaoxiao Kong¹, Mingyang Wang¹¹Tianjin University, China**2-LP-CO-S13****Simulation and Experiments for Superconducting DC Energy Pipeline Cooled by LNG**Jianhui Chen¹, Guomin Zhang¹¹Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences, China**2-LP-CO-S14****Insulative High Thermal Conduction FRPs for Increase of Stability in HTS Coils**Gimpei Arisaka¹¹Sophia University, Japan**2-LP-FCT - FCL and Transformers**

Chairs: Gaëtan Didier, University of Lorraine and Xiaozhe Pei, University of Bath

2-LP-FCT-I01**Optical fiber sensing for fast hotspot detection in SFCL**Arooj Akbar¹, Zhisheng Yang¹, Nicolò Riva¹, Guillaume Escamez², Bertrand Dutoit¹¹Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland²Supergrid Institute, France**2-LP-FCT-I02****Additional stabilization of REBCO coated conductors for Fault Current Limiters**Michal Vojenčiak¹, Marek Búran¹, Marek Mošat¹, Marcela Pekar íková², Fedor Gömöry¹¹Slovak Academy of Sciences, Institute of Electrical Engineering, Slovakia²Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Slovakia**2-LP-FCT-I03****Experimental Study on a Novel Superconducting Fault Current Limiting Transformer**Jie Sheng¹, zhijian Jin¹, Zhuyong Li²¹Department of Electrical Engineering, Shanghai Jiao Tong University, China²Shanghai Jiao Tong University, China

2-LP-FCT-S04**Current limiting characteristics of a SFCL composed of REBCO pancake coils**Daiki Sakamoto¹, Takuya Sakamoto¹, Yasuyuki Shirai¹¹Kyoto University, Japan**2-LP-FCT-S05****Additional Losses in the Windings of the HTS Transformer Made of Parallel Tapes**Grzegorz Wojtasiewicz¹, Beata Kondratowicz-Kucewicz¹¹Electrotechnical Institute, Poland**2-LP-FCT-S06****HTS coated conductor current limiting performance at temperatures lower than 77K**Marek Mořat¹, Michal Vojenčiak¹, Fedor Gömöry¹, Ján Šouc¹, Marcela Pekarčíková²¹Institute of Electrical Engineering SAS, Slovakia²Faculty of Material Science and Technology STU in Trnava, Slovakia**2-LP-FCT-S07****Simulation of the Thermal Performance of HTS Coated Conductors for HVDC SFCL**Wescley Tiago B. de Sousa¹, Andrej Kudymow¹, Severin Strauß¹, Steffen Elschner², Mathias Noe¹¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany²Hochschule Mannheim, Institute for Energy Systems, Germany**2-LP-FCT-S08****Novel Configuration for Resistive SFCL with bifilar 2G tapes**Luís Micahel Martins Rocha¹, Henrique Demétrio Mariano Dias Carneiro¹, Felipe Sass¹, Felipe dos Santos Costa¹, Guilherme Gonçalves Sotelo¹, Alexander Polasek¹, Rubens de Andrade Júnior¹¹Federal University of Rio de Janeiro or University (UFRJ) / Center for Energy Research (CEPEL), Brazil**2-LP-FCT-S09****An advanced shunt for FCL REBCO tape**Pascal Tixador¹, Alexandre Zampa², Arnaud Badel²¹Université Grenoble Alpes – CNRS Grenoble INP, France²CNRS, France**2-LP-FCT-S10****Project FASTGRID - Tests on 2G HTS for its Application in DC Resistive SC FCL**Andrej Kudymow¹, Steffen Elschner², Mathias Noe¹, Szymon Palasz¹, Wescley Tiago Batista de Sousa¹¹Karlsruhe Institute of Technology (KIT), Germany²University of Applied Science Mannheim, Germany**2-LP-FCT-S11****The influence of hot spots on the overcurrent characteristics of HTS-CCs**Jiabin Yang¹, Boyang Shen¹, Chao Li¹, Jun Ma¹, Tim Coombs¹¹University of Cambridge, United Kingdom

2-LP-FCT-S12**Research on delamination of YBCO tapes based on Hilbert-Huang Transform**Haonan Wang¹, Guomin Zhang¹, Zhifeng Zhang¹¹Key Laboratory of Applied Superconductivity, Chinese Academy of Sciences, China**2-LP-FCT-S13****Improvement of Recovery Characteristics of GdBCO Tape for a Resistive SFCL**Sota Yanai¹, Chihiro Maeda¹, Yasuyuki Shirai¹, Masahiro Shiotsu¹, Shigeki Isojima²¹Kyoto University, Japan²Sumitomo Electric Industries, Ltd, Japan**2-LP-FCT-S14****Operational Characteristics of Integrated Three-Phase SFCL Using Double Quench**Tae-Hee Han¹, Shin-Won Lee¹, Seok-Cheol Ko², Sung-Hun Lim³¹Jungwon University, South Korea²Kongju National University, South Korea³Soongsil University, South Korea**2-LP-FCT-S15****Study of CC tapes damaged during fault current limitation at 66 K**Marcela Pekarčíková¹, Jozef Mišík¹, Michal Skarba¹, Martin Necpal¹, Michal Vojenčiak², Marek Moša², Fedor Gömöry²¹Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Slovakia²Slovak Academy of Sciences, Institute of Electrical Engineering, Slovakia**2-LP-FCT-S16****Development of a superconducting transformer for high current conductor testing**Hongjun Ma¹, Yi Shi², Huajun Liu², Fang Liu², Jinggang Qin², Huang Chen¹, Xintao Zhang¹, Yu Wu², Jiangang Li²¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, Christmas Island²Institute of Plasma Physics Chinese Academy of Sciences, China**2-LP-FCT-S17****Losses estimate in a new concept of inductive-resistive SFCL**Belén Pérez¹, Pilar Suárez¹, Alfredo Álvarez¹, João Murta-Pina², Anabela Pronto², Roberto Oliveira²¹Universidad de Extremadura, Spain²Universidade Nova de Lisboa, Portugal**2-LP-FCT-S18****Lightweight Design of 6.9/1.0 kV-10 MVA REBCO Superconducting Transformer**Goki Kawasaki¹, Hiromasa Sasa¹, Shun Miura¹, Masataka Iwakuma¹, Akira Tomioka², Masayuki Konno², Teruo Izumi³¹Kyushu University, Japan²Fuji Electric Co. Ltd., Japan³AIST, Japan

2-LP-FCT-S19

Operation of Three-Phase Transformer Type SFCL Due to Its Secondary Connection

Sung-Hun Lim¹

¹Soongsil University, South Korea

2-LP-FCT-S20

Characteristics of HTS Transformer Under the Different Current Ramp Rate

Jie Chen¹

¹Beijing Jiaotong University and University of Cambridge, United Kingdom

2-LP-FCT-S21

Design and Experimental analysis of HTS traction transformer coil

Xin Zhao¹, Jin Fang¹

¹Beijing Jiaotong University, China

2-LP-FCT-S22

Superconducting Wireless Power Transfer for Electric Vehicles

Philip Machura¹, Kevin Kails¹, Quan Li¹

¹School of Engineering, Institute for Energy Systems, The University of Edinburgh, United Kingdom

2-LP-FCT-S23

Mid-range wireless power transfer system using superconducting and copper coils

Luís Romba¹, Carla Borges¹, João Murta-Pina¹, Stanimir Valtchev², Anabela Pronto², Mário Ventim-Neves²

¹Faculdade de Ciências e Tecnologia - FCT NOVA, Portugal

²Centre of Technology and Systems - Uninova, Portugal

2-LP-MR - MRI and Medical Apps

Chairs: M'hamed Lacrimi, Siemens Healthcare Ltd MT and Pierre Vedrine, CEA Paris Saclay

2-LP-MR-I01

Development of a half-size 3 T REBCO superconducting magnet for MRI

Hideaki Miura¹, Tetsuya Matsuda¹, Kota Nomura¹, Tatsuya Inoue¹, Yusuke Morita¹, Ryo Eguchi¹, Shunsuke Otake¹, Hajime Tanabe¹, Shoichi Yokoyama¹, Shinji Sato¹

¹Mitsubishi Electric Corporation, Japan

2-LP-MR-I02

Protection Scheme of Multi-stacked No-Insulation REBCO coil system for MRIs

Haruka Onoshita¹, Yuka Yoshihara¹, Mai Hamanaka¹, Atsushi Ishiyama¹, So Noguchi², Tomonori Watanabe³, Shigeo Nagaya³

¹Waseda University, Japan

²Hokkaido University, Japan

³Chubu Electric Power Co.,Inc, Japan

2-LP-MR-I03

Reduction Method for Influence of Screening Current in REBCO Coil System for MRI
Zenta Inagaki¹, Atsushi Ishiyama¹, Hiroshi Ueda²

¹Waseda University, Japan

²Okayama University, Japan

2-LP-MR-S04

Feedforward current control of MRI magnet with power supply driven operation
Satoshi Kitada¹, Ryuhei Sakamoto¹, Yasuyuki Shirai¹, Shoichi Yokoyama²

¹Kyoto University, Japan

²Mitsubishi Electric Co, Japan

2-LP-MR-S05

The Rising and Falling Field Device of High Field MRI Superconducting Magnet
Tianli Dai¹, Chao Zhou², Jinggang Qin², Jiangang Li²

¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China

²Institute of Plasma Physics Chinese Academy of Sciences, China

2-LP-MR-S06

A 3T MRI magnet based on MgB₂ – magnetic, mechanical and thermal modeling
Milan Majoros¹, Michael Sumption¹, Matt Rindfleisch², David Doll², Michael Tomsic², Edward Collings¹

¹The Ohio State University, United States of America

²Hyper-Tech Research, Inc., United States of America

2-LP-MR-S07

Development of HTS Bulk magnet for High-Resolution NMR
Takashi Nakamura¹

¹RIKEN, Japan

2-LP-MR-S08

Asymmetric superconducting magnet design for head MRI
Yaohui Wang¹, Qiuliang Wang¹, Lei Wang¹, Hongyi Qu¹

¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

2-LP-MR-S09

A target field approach to optimal cylindrical shim coils for MRI system
Kaihong Wu¹, Yu Wu¹, Yi Shi¹, Yongliang Zhang¹, Aihua Xu¹, Chao Dai¹, Qiangwang Hao¹, Yuanyuan Ma¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

2-LP-MR-S10

Simulation of screening current-induced field in 500 MHz LTS/HTS NMR magnets
Eisuke Morikawa¹, Keisuke Tokunaga¹, Tomoaki Koizumi¹, SeokBeom Kim¹, Hiroshi Ueda¹, Mamoru Hamada², Yoshinori Yanagisawa³, Hideaki Maeda⁴

¹Okayama University, Japan

²Japan Superconductor Technology, Japan

³RIKEN, Japan

⁴Japan Superconductor Technology /RIKEN, Japan

2-LP-MR-S11

Distributed Temperature Detection of HTS Coils with Encapsulated Optical Fibers

Zhuyong Li¹, Junjie Jiang¹, Jie Sheng¹, Zhiyong Hong¹

¹Shanghai Jiao Tong University, China

2-LP-MR-S12

Optimised Design of HTS Medical Accelerators

Yvonne Turid Baird¹, Quan Li¹

¹School of Engineering, Institute for Energy Systems, The University of Edinburgh, United Kingdom

2-LP-MR-S13

Field errors due to screening current in HTS coil system for Skeleton Cyclotron

Hiroshi Ueda¹, Yuta Awazu¹, SeokBeom Kim¹, So Noguchi², Tomonori Watanabe³, Shigeo Nagaya³, Jun Yoshida⁴, Mitsuhiro Fukuda⁵, Atsushi Ishiyama⁶

¹Okayama University, Japan

²Hokkaido University, Japan

³Chubu Electric Power Co., Inc., Japan

⁴Sumitomo Heavy Industries, Ltd., Japan

⁵Osaka University, Japan

⁶Waseda University, Japan

2-LP-MR-S14

Evaluation of mechanical behaviors in HTS coil system for Skeleton Cyclotron

Yuta Awazu¹, SeokBeom Kim¹, Hiroshi Ueda¹, So Noguchi², Tomonori Watanabe³, Shigeo Nagaya³, Jun Yoshida⁴, Mitsuhiro Fukuda⁵, Atsushi Ishiyama⁶

¹Okayama University, Japan

²Hokkaido University, Japan

³Chubu Electric Power Co., Inc., Japan

⁴Sumitomo Heavy Industries, Ltd., Japan

⁵Osaka University, Japan

⁶Waseda University, Japan

2-LP-MR-S15

A Review of HTS Persistent Current Switch Technologies

Djurre Wikkerink¹

¹Delft University of Technology, The Netherlands

2-LP-MR-S16

Room temperature Bp coil with Litz wire and AlN cooling disks for ULF-MRI

Seong-min Hwang¹, Jeong-Hyun Shim¹, Ingo Hilschenz¹, Seong-Joo Lee¹, Kiwoong Kim¹

¹Korea Research Institute of Standards and Science, South Korea

2-LP-MR-S17

Development of Cryogen-free Superconducting Magnet for 230 MeV Proton Cyclotron

Takehisa Tsurudome¹, Jun Yoshida¹, Masayuki Hirabayashi², Hiroshi Tsutsui², Atsushi Hashimoto¹, Yoshihiko Arakawa¹, Yuta Ebara¹, Takaaki Morie¹, Hitoshi Mitsubori¹, Kazuya Taki², Hiroshi Ookubo¹, Yukio Mikami¹, Yukio Kumata¹

¹Sumitomo Heavy Industries, Ltd. Technology Research Center, Japan

²Sumitomo Heavy Industries, Ltd. Industrial Equipment Division, Japan

2-LP-RF - Superconducting RF

Chairs: Rama Calaga, CERN and Sergio Calatroni, CERN

2-LP-RF-I01

A GdBCO bulk staggered array undulator

Marco Calvi¹, Mark D. Ainslie², Anthony Dennis², John H. Durrell², Sebastian Hellmann¹, Thomas Schmidt¹, Yunhua Shi², Kai Zhang¹

¹Paul Scherrer Institute, Switzerland

²University of Cambridge, United Kingdom

2-LP-RF-S02

RF surface resistance of REBCO coated conductors for the FCC beam screen coating

Artur Romanov¹, Joffre Gutierrez¹, Patrick Krkotic², Joan O'Callaghan³, Montse Pont², Francis Perez², Xavier Granados¹, Mauro Taborelli⁴, Sergio Calatroni⁴, Teresa Puig¹

¹CMAB-CSIC, Spain

²ALBA synchrotron light source, Spain

³Universitat Politècnica de Catalunya, Spain

⁴CERN, Switzerland

2-LP-RF-S03

Surface resistance and reactance trapped flux sensitivity of 6GHz cavities

Ruggero Vaglio¹, Antonio Cassinese¹, Vanessa Garcia², Cristian Pira², Luca Zanutto²

¹Dipartimento di Fisica - Università di Napoli Federico II, Italy

²INFN LNL, Italy

2-LP-RF-S04

Improvement of End Field Profile of Bulk HTS Undulator

Toshiteru Kii¹

¹Institute of Advanced Energy, Kyoto University, Japan

2-LP-RF-S05

RF Power Dependent Anomalous NRMA in Nano Nickel added YBCO Powers

Fhulufhelo Nemangwele¹, Srinivasu V. Vallabhapurapu²

¹University of Venda, South Africa

²University of South Africa, South Africa

2-LP-SMA - Superconducting Machines

Chairs: Maria Sparing, IFW Dresden, Leibniz Institute for Solid State and Materials Research, Institute for Metallic Materials and Koki Ochiai, Keio University Graduate School of Science and Technology

2-LP-SMA-I01

Electromagnetic Design of Fully Superconducting Generators for Aviation Systems

Yutaka Terao¹, Daniel Heideman¹, Hiroyuki Ohsaki¹

¹University of Tokyo, Japan

2-LP-SMA-I02**Superconducting Halbach Array Field Winding for Synchronous Machines**Markus Mueller¹, Quan Li¹, Hongye Zhang¹¹University of Edinburgh, United Kingdom**2-LP-SMA-I03****Development of 1 kW fully-superconducting synchronous motor with REBCO wires**Hiromasa Sasa¹, Masataka Iwakuma¹, Shun Miura¹, Masataka Komiya¹, Takuya Aikawa¹, Teruyoshi Sasayama¹, Takashi Yoshida¹, Kaoru Yamamoto¹, Teruo Izumi², Akira Tomioka³, Masayuki Konno³, Takahiro Umeno⁴¹Kyushu University, Japan²National Institute of Advanced Industrial Science and Technology, Japan³Fuji Electric Co. Ltd., Japan⁴Taiyo Nippon Sanso Corporation, Japan**2-LP-SMA-I04****Electromagnetic Design of 2 MW Fully-Superconducting Synchronous Motors**Ryota Sugochi¹, Takuya Aikawa¹, Masataka Komiya¹, Shun Miura¹, Masataka Iwakuma¹, Koichi Yoshida¹, Teruyoshi Sasayama¹, Kaoru Yamamoto¹, Akira Tomioka², Masayuki Konno², Teruo Izumi³¹Kyushu University, Japan²Fuji Electric, Japan³National Institute of Advanced Industrial Science and Technology, AIST, Japan**2-LP-SMA-I05****Electromagnetic design of 100 kW-class induction motors with HTS tapes**Yuma Doi¹, Koichiro Ozaki¹, Koichi Yoshida¹, Shun Miura¹, Teruyoshi Sasayama¹, Takashi Yoshida¹, Masataka Iwakuma¹, Akira Tomioka², Masayuki Konno², Teruo Izumi³¹Kyushu University, Japan²Fuji Electric Co. Ltd., Japan³AIST, Japan**2-LP-SMA-I06****Design of the coil for the Pulsed Field Magnetization of a bulk HTS motor**Jakub Kapek¹, Kévin Berger¹, Erasmus Shaanika², Tetsuya Ida², Mitsuru Izumi², Jean Lévêque¹¹GREEN - Université de Lorraine, Faculté des Sciences et Technologies, France²Tokyo University of Marine Science and Technology, Japan**2-LP-SMA-S07****Modelling an HTS dynamo using a segregated finite-element model**Mark Ainslie¹, Loïc Quéval², Ratu Mataira³, Chris Bumby³, Rod Badcock³¹Department of Engineering, University of Cambridge, United Kingdom²University of Paris-Saclay, France³Robinson Research Institute, Victoria University of Wellington, New Zealand

2-LP-SMA-S08**Trapped-flux magnets characterization for application in synchronous machines**

Vicente Climente-Alarcon¹, Anis Smara¹, Nikolay Mineev¹, Lukasz Tomkow¹, Bartek Glowacki¹, Thomas Reis²

¹University of Cambridge, United Kingdom

²Oswald Elektromotoren GmbH, Germany

2-LP-SMA-S09**Design of FRP Components for the Oil-cooling Air-core Stator of an HTS Motor**

Yong Zhou¹, Yang Xiao¹, Sisi Peng¹, Linke Yang², Ruiguang Xie²

¹Wuhan Institute of Marine Electric Propulsion, China

²Xi'an Kangben Material Co., Ltd., China

2-LP-SMA-S10**Principal analysis of hybrid power systems with HTS electrical machines**

Konstantin Kovalev¹, Roman Ilyasov¹, Nicolay Ivanov¹, Dmitriy Dezhin¹, Vladimir Penkin¹, Boris Zechihin¹

¹Moscow Aviation Institute, Russia

2-LP-SMA-S11**Measured coupling AC loss in external fields of a stator coil for aircraft motor**

Jan Kovac¹, Enric Pardo¹, Michal Vojenciak¹, Shuo Li², Eva Berberich³, Thomas Reis³

¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia

²Institute of Electrical Engineering, Slovak Academy of Sciences, College of Information Science and Engineering, Northeastern University, Shenyang, Slovakia

³Oswald Elektromotoren GmbH, Germany

2-LP-SMA-S12**Dynamic loss analysis of superconducting generators**

Kevin Kails¹, Philip Machura¹, Min Yao¹, Hongye Zhang¹, Quan Li¹, Markus Mueller¹

¹University of Edinburgh, United Kingdom

2-LP-SMA-S13**AC losses test of HTS racetrack coils for HTS motor winding**

Sergey Zanegin¹, Nikolay Ivanov², Dmitry Shishov², Ivan Shishov², Konstantin Kovalev², Vasily Zubko³

¹Moscow Aviation Institute, JSC VNIIEP, Russia

²Moscow Aviation Institute, Russia

³JSC VNIIEP, Russia

2-LP-SMA-S14**Excitation characteristics of MgB₂ race track coil immersed in liquid hydrogen**

Yoshiki Iwami¹, Taito Matsumoto¹, Shintaro Hara¹, Yasuyuki Shirai¹, Masahiro Shiotsu¹, Hiroaki Kobayashi², Yoshihiro Naruo², Yoshihumi Inatani², Satoshi Nonaka², Hideki Tanaka³, Motomune Kodama³, Takaaki Suzuki³

¹Kyoto University, Japan

²JAXA, Japan

³Hitachi, Ltd, Japan

2-LP-SMA-S15

Evaluation of closed-magnetizing system for HTS rotating machine

Keita Tsuzuki¹

¹Department of Information and Computer Engineering/National Institute of Technology, Toyota College, Japan

2-LP-SMA-S16

Critical current measurement in HTS stator armature coils for AC machines

Pawel Lasek¹, Mariusz Stepień¹, Krzysztof Habelok¹

¹Silesian University of Technology, Poland

2-LP-SMA-S17

Study of 10 MW HTS Flux modulation Generators with Different Armature Windings

Yi Cheng¹

¹Huazhong University of Science and Technology, China

2-LP-SMA-S18

Small-scale prototype of a Fully HTS-2G six-phase inductor electrical machine

Roman Ilyasov¹, Dmitriy Dezhin¹, Irina Dezhina¹, Konstantin Kovalev¹, Gennady Kuznetsov¹, Denis Rusanov¹

¹Moscow Aviation Institute (National Research University), Russia

2-LP-SMA-S19

The Oil Cooling Design and Test for Air-core stator of an HTS Motor

Qi Dong¹, Yong Zhou¹, Xiaojun Niu¹

¹Wuhan Institute of Marine Electric Propulsion, CSIC, China

2-LP-SMA-S20

YBCO Racetrack Coil for an HTS Synchronous Motor with Brushless Exciter

Wei Wang¹

¹Sichuan University, China

2-LP-SMA-S21

Winding configurations and ac loss of Superconducting Synchronous REBCO Motors

Akifumi Kawagoe¹, Ryota Kanemaru¹, Kazuma Kudou¹, Masataka Iwakuma², Masayuki Konno³, Akira Tomioka³, Tero Izumi⁴

¹Kagoshima University,

²Kyushu University, Japan

³Fuji Electric Co., Ltd., Japan

⁴AIST, Japan

2-LP-SMA-S23

Measurement and analysis of transverse flux linear HTS motor

Krzysztof Habelok¹, Pawel Lasek¹, Mariusz Stepień¹

¹Silesian University of Technology, Poland

2-LP-SMA-S24**Design and Analysis of an HTS Synchronous Motor with a Hybrid Magnets Rotor**
Zhen Huang¹¹Shanghai Jiao Tong University, China**2-LP-SMA-S25****Superconducting Propulsion System with LH2 Cooling for All-Electric Aircraft**
Dmitry Dezhin¹, Roman Ilyasov¹, Irina Dezhina¹¹Moscow Aviation Institute (National Research University), Russia
and Koki Ochiai, Keio University Graduate School of Science and Technology**2-LP-SMA-S26****Topology comparison of superconducting AC machines for hybrid-electric aircraft**
Martin Boll¹, Matthias Corduan¹, Mykhaylo Filipenko¹, Marijn Pieter Oomen², Mabroor Ahmed¹, Mathias Noe³¹Siemens AG, Corporate Technology- eAircraft, Germany²Siemens AG, Corporate Technology, Germany³Karlsruhe Institute of Technology, Institute for Technical Physics, Germany**2-LP-SMA-S27****Coupling loss modelling for soldered HTS stacks and multi-tape-conductor coil**
Shuo Li¹, Enric Pardo¹, Ján Kováč¹, Michal Vojenčiak¹, Eva Berberich², Thomas Reis²¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia²Oswald Elektromotoren GmbH, Germany**2-MP-BK2 - Bulk Materials 2**

Chair: Kai Yuan (Danny) Huang, University of Cambridge

2-MP-BK2-I01**Numerical optimisation of ring reinforcements for GdBCO-Ag bulk superconductors**Dominic Barthlott¹, Kaiyuan Huang², John Durrell², David Cardwell², Bernhard Holzapfel³, Mark Ainslie²¹Karlsruhe Institute of Technology (KIT), Germany²University of Cambridge, Department of Engineering,³Karlsruhe Institute of Technology, Institute of Technical Physics, Germany**2-MP-BK2-I02****Microstructural Characterization of MgB₂ superconductors for operation at 27 K**Laura Wheatley¹, Zilin Gao¹, Guillaume Matthews¹, Edwin Eardley², Chris Wort², Matthew Hills³, Tom Bradshaw³, Chris Grovenor¹, Susannah Speller¹¹University of Oxford, United Kingdom²Element Six, Global Innovation Centre, United Kingdom³Science and Technology Facilities Council, United Kingdom

2-MP-BK2-I03

Dynamic mechanical response in bulk superconductors

Huadong Yong¹, Yanyun Ru¹, Youhe Zhou¹

¹Lanzhou University, China

2-MP-BK2-I04

The growth and superconducting properties of (Gd-Y)BCO single grains

Yunhua Shi¹

¹Engineering Department, University of Cambridge, United Kingdom

2-MP-BK2-S05

Field and temperature dependent critical current density in composite systems

Ajay Kumar Ghosh¹

¹Jadavpur University, India

2-MP-BK2-S06

Effect of Graphene Oxide and Reduced Graphene Oxide doping on Bulk YBCO

Mohammed Zaahid Gaffoor¹, Alan Lawrence Leigh Jarvis¹

¹University of Kwa Zulu Natal, South Africa

2-MP-BK2-S07

Effects of Nd₂O₃ and TiO₂ addition on YBCO bulk superconductors grown by TSIG

Fahad Alzaid¹, Devendra Namburi², Yunhua Shi², Anthony Dennis², Maha Khayyat¹, Bandar Alotaibi¹, David Cardwell², John Durrell²

¹Center of Excellence for Advanced Materials and Manufacturing, King Abdulaziz City for Science and Technology, Saudi Arabia

²Department of Engineering, University of Cambridge, United Kingdom

2-MP-BK2-S08

Pulsed field magnetization of ring and assembled bulk superconductors

Difan Zhou¹, Yuhua Shi², Anthony Dennis², David Cardwell², John Durrell²

¹Department of Physics, Shanghai University, China and Department of Engineering, University of Cambridge, United Kingdom

²Department of Engineering, University of Cambridge, United Kingdom

2-MP-BK2-S09

Excess Conductivity and magneto conductivity of nano Nio/Sm-123 composite

Hadi Basma¹, Sajida Rmeid¹, Ramadan Awad¹

¹Beirut Arab University, Lebanon

2-MP-BK2-S10

Improvement of trapped magnetic field by waveform control pulse magnetization

Tetsuya Ida¹, Masahiro Watasaki², Mitsuru Izumi¹

¹Tokyo University of Marine Science and Technology, Japan

²National Institute of Technology, Hiroshima College, Japan

2-MP-BK2-S11**Simulation of mechanical stress in ReBaCuO disk bulk magnetized by pulsed-field**

Fumiya Shimoyashiki¹, Hiroyuki Fujishiro², Tatsuya Hirano¹, Tomoyuki Naito¹, Mark D. Ainslie³

¹Department of Physical Science and Materials Engineering, Faculty of Science and Engineering, Iwate University, Japan

²Faculty of Science and Engineering, Japan

³Bulk Superconductivity Group, Department of Engineering, University of Cambridge, United Kingdom

2-MP-BK2-S12**Simulation of mechanical stress in REBaCuO ring bulk magnetized by pulsed-field**

Tatsuya Hirano¹, Hiroyuki Fujishiro¹, Tomoyuki Naito¹, Mark D. Ainslie²

¹Department of Physical Science and Materials Engineering, Faculty of Science and Engineering, Iwate University, Japan

²Bulk Superconductivity Group, Department of Engineering, University of Cambridge, United Kingdom

2-MP-BK2-S13**Trapped field of two close bulk superconductors with misaligned c-axes**

Michel Houbart¹

¹University of Liège, Belgium

2-MP-CC2 - Coated Conductors 2

Chairs: Albert Queraltó, ICMAB-CSIC

2-MP-CC2-I01**Study of hetero junction between RE123 and Bi2223 tapes with JIM method**

Shintetsu Kanazawa¹

¹Muroran Institute of Technology, Japan

2-MP-CC2-I02**Low-temperature superconducting joints of REBCO-CCs without oxygenation anneal**

Shuhei Funaki¹, Yugo Miyachi¹, Yasuji Yamada¹

¹Shimane University, Japan

2-MP-CC2-I03**Ultra-high field HTS coated tapes under magnetic field / temperature gradients**

Alexander Usoskin¹, Johannes Gnisen², Michael Eisterer³, Ulrich Betz¹, Klaus Schlenga¹

¹Bruker HTS GmbH, Germany

²Bruker HTS GmbH, Germany and TU-Wien, Austria

³Atominstitut, TU Wien, Austria

2-MP-CC2-S04**In-depth resistance analysis of REBCO tape joints with indium insert and solders**

Ryoichiro Hayasaka¹, Satoshi Ito¹, Takeharu Yokoe², Daisaku Yokoe², Hidetoshi Hashizume¹

¹Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

²Japan Fine Ceramics Center, Japan

2-MP-CC2-S05

Effect of Interfacial Resistance at 2G Superconductor-stabilizer layer

Abhinav Kumar¹

¹School of Mechanical Engineering, India

2-MP-CC2-S06

Low resistance joint of YGdBCO coated conductors using nano-silver pastes

Gansong Yang¹, Lian Liu¹, Wentao Wang¹, Zhengjian Tian¹, Mingjiang Wang², Xue Yang¹, Baolei Huo¹, Yong Zhao³

¹Key Laboratory of Advanced Technologies of Materials (Ministry of Education of China), School of Materials Science and Engineering, Southwest Jiaotong University, Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), China

²Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), School of Electrical Engineering, Southwest Jiaotong University, China

³Key Laboratory of Magnetic Levitation and Maglev Trains (Ministry of Education of China), School of Electrical Engineering, Southwest Jiaotong University, College of Physics and Energy, Fujian Normal University, China

2-MP-CC2-S07

The effect of magnetization on current distribution of an YBCO Core Cable

Rujing Liu¹, Wenjiang Yang¹, Dongbin Song¹, Jiahui Zhu², Huiming Zhang²

¹Beihang University, China

²The China Electric Power Research Institute, China

2-MP-CC2-S08

Development of YBa2Cu3O7 coated conductors using an electromagnetic steel tape

Naho Terao¹, Kotaro Higuchi¹, Shigeru Horii¹, Ataru Ichinose², Toshiya Doi¹

¹Kyoto University, Japan

²Central Research Institute of Electric Power Industry, Japan

2-MP-CC2-S09

Inter- and Intra-CuO-planar Jc and Biaxial Strain Measurements on ISD REBCO

Charles Gurnham¹, Veit Große², Damian Hampshire¹

¹Department of Physics, Superconductivity Group, Durham University, United Kingdom

²THEVA Dünnschichttechnik GmbH, Germany

2-MP-CC2-S10

Shielded Region in HTS Coated Conductors

Quan Li¹, Hongye Zhang¹, Min Yao¹, Zhenan Jiang², Ying Xin³

¹University of Edinburgh, United Kingdom

²Victoria University of Wellington, New Zealand

³Tianjin University, China

2-MP-CC2-S11

Low cost transposed cables made with 1G NX and REBCO 2G HTS tapes for coils

Alexander Otto¹

¹Solid Material Solutions, LLC, United States of America

2-MP-CC2-S12**Growth of ReBCO films by quantitative evaporation PVD on ISD-MgO buffered tapes**Oleksiy Troshyn¹, Christian Hoffmann², Veit Große¹, Bernhard Holzapfel³, Jens Hänisch³¹THEVA Dünnschichttechnik GmbH, Germany²Ceraco Ceramic Coating GmbH, Germany³Institute for Technical Physics, Karlsruhe Institute of Technology, Germany**2-MP-CC2-S13****Growth rate tuned flux pinning in YBCO films grown on IBAD-MgO based template**Hannu Huhtinen¹, Elmeri Rivasto², Mukarram Khan¹, Heikki Palonen¹, Y. Zhao², C. Chen³, J. Zhu³, Petriina Paturi¹¹Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, Finland²Department of Electrical Engineering, Shanghai Jiao Tong University, China³Shanghai Superconductor Technology Co. Ltd., China**2-MP-CC2-S14****Hysteretic losses of superconducting tape wires in large magnetic fields**Yasunori Mawatari¹, Yoichi Higashi¹¹National Institute of Advanced Industrial Science and Technology (AIST), Japan**2-MP-FP3 - Critical Current and Flux Pinning 3**

Chairs: Daniel Kagerbauer, Atominstiut, TU Wien and Nicola Pompeo, University Roma Tre

2-MP-FP3-S02**Material Law Impact on the Electromagnetic Properties of 2G-HTS Racetrack Coils**Bright Robert¹, Muhammad Fareed¹, Harold Ruiz¹¹University of Leicester, United Kingdom**2-MP-FP3-S03****Magnetic coupling in Superconductor-Ferromagnet heterostructures**Marinela Alina Ionescu¹, Julian Simmendinger¹, Manuel Bihler¹, Gisela Schütz¹, Joachim Albrecht²¹Max Planck Institute for Intelligent Systems, Germany²Research Institute for Innovative Surfaces FINO, Germany**2-MP-FP3-S04****Resistive state during vortex motion in mesoscopic superconductors**Elwis Duarte¹, Edson Sardella¹, Rafael Zadorosny¹¹UNESP, Brazil**2-MP-FP3-S05****Magnetic flux penetration into micron-sized superconductor/ferromagnet bilayers**Julian Simmendinger¹, Gisela Schütz¹, Joachim Albrecht²¹Max Planck Institute for Intelligent Systems, Germany²Research Institute for Innovative Surfaces FINO, Germany

2-MP-FP3-S06

Influence of thermal gradients on the vortex dynamics and pinning

Elwis Duarte¹, Alice Presotto¹, Danilo Okimoto¹, Vinicius Souto¹, Edson Sardella², Rafael Zadorosny³

¹São Paulo State University (UNESP), School of Engineering, Brazil

²São Paulo State University (UNESP), School of Sciences, Brazil

³São Paulo State University (UNESP), School of Engineering, São Paulo State University (UNESP), School of Sciences, Brazil

2-MP-FP3-S07

Superconducting transport properties of thin Co- doped BaFeAs film and nanowire

Pusheng Yuan¹, Wei Zhang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

2-MP-FP3-S08

Correlation between first flux entry field and surface roughness of Nb samples

Rastislav Ries¹, Eugen Seiler¹, Arturs Medvids², Oleg B Malyshev³, Reza Valizadeh³, Cristian Pira⁴, Michael Vogel⁵, Stewart Leith⁵, Xin Jiang⁵, Alban Sublet⁶, Claire Z Antoine⁷, Oliver Kugeler⁸

¹Institute of Electrical Engineering SAS, Slovakia

²Riga Technical University, Latvia

³Science and Technology Facilities Council, United Kingdom

⁴INFN - Istituto Nazionale di Fisica Nucleare, Italy

⁵Institute of Materials Engineering, University of Siegen, Germany

⁶CERN, Switzerland

⁷Atomic Energy and Alternative Energies Commission, France

⁸Helmholtz-Zentrum Berlin, Germany

2-MP-FP3-S09

MgB₂-based materials with high critical currents and flux pinning

Tetiana Prikhna¹, Michael Eisterer², Vitaliy Romaka³, Semyon Ponomarov⁴

¹Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine

²Atominstut, TU Wien, Austria

³Lviv Polytechnic National University, Ukraine

⁴Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine (NASU), Ukraine

2-MP-FP3-S10

Electromechanical properties of iron-based superconducting tapes

Chao Tian¹, HuaJun Liu¹, Fang Liu¹, Yi Shi¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

2-MP-FP3-S11

A peak in critical current density of Ni-Ba₁₂₂

Gabriel Bioletti¹, Grant V M Williams², Michael A Susner³, David M Uhrig¹, Shen V Chong¹

¹Robinson Research Institute, Victoria University of Wellington, School of Chemical and Physical Sciences, Victoria University of Wellington, MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand

²School of Chemical and Physical Sciences, Victoria University of Wellington, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand

³The Air Force Research Laboratory, United States of America

2-MP-FP3-S12**Microwave investigation of pinning and flux flow in Te- and cubic-BN- added MgB₂**

Andrea Alimenti¹, Kostiantyn Torokhtii¹, Mihai Grigoroscuta², Petre Badica², Adrian Crisan², Enrico Silva¹, Nicola Pompeo¹

¹Department of Engineering, Università Roma Tre, Italy

²National Institute of Materials Physics, Romania

2-MP-FP3-S13**Electron irradiation of bulk FeSe superconductors**

Quentin Nouailhetas¹, Kévin Berger¹, Bruno Douine¹, Xian Lin Zeng², Anjela Koblishchka-Veneva³, Michael Koblishchka³, Miryala Muralidhar⁴, Kees van der Beek⁵

¹GREEN - Université de Lorraine, Faculté des Sciences et Technologies, France

²Experimental Physics, Saarland University, Germany

³Experimental Physics, Saarland University, Germany, Department of Materials Science and Engineering, Shibaura Institute of Technology, Japan,

⁴Department of Materials Science and Engineering, Shibaura Institute of Technology, Japan

⁵Laboratoire des Solides Irradiés, Ecole Polytechnique, CNRS, CEA, Université Paris-Saclay, France

2-MP-FP3-S14**Trapped field properties of large MgB₂ bulk fabricated by infiltration method**

Yuhei Takahashi¹, Tomoyuki Naito¹, Hiroyuki Fujishiro¹

¹Faculty of Science and Engineering, Iwate university, Japan

2-MP-FP3-S15**Scaling analyses on the critical current density in MgB₂/NbN/Si thin film**

Akihiko Nishida¹, Chihiro Taka¹, Stefan Chromik²

¹Fukuoka University, Japan

²Slovak Academy of Sciences, Slovakia

2-MP-NB - Nb-based Materials

Chairs: Chris Grovenor, and Florin Buta, University of Geneva

2-MP-NB-I01**Homogeneity of Nb₃Sn wires with artificial pinning centers**

Mattia Ortino¹, Thomas Baumgartner¹, Stephan Pfeiffer², Xingchen Xu³, Xuan Peng⁴, Mike Sumption⁵, Johannes Bernardi², Michael Eisterer¹

¹Atominstut, TU Wien, Austria

²USTEM, TU Wien, Austria

³Fermi National Accelerator Laboratory, United States of America

⁴Hyper Tech Research Inc., United States of America

⁵Center for Superconducting and Magnetic Materials, Department of Materials Science and Engineering, The Ohio State University, United States of America

2-MP-NB-I02

Homogeneity in Nb₃Sn wires: a route towards high quality superconductors

Alice Moros¹, Mattia Ortino², Stephan Pfeiffer¹, Stefan Löffler¹, Maxim Alekseev³, Anastasia Tsapleva³, Pavel Lukyanov³, Ildar M. Abdyukhanov³, Victor Patsyrny³, Bernardo Bordini⁴, Amalia Ballarino⁴, Simon C. Hopkins⁴, Michael Stöger-Pollach¹, Johannes Bernardi¹, Michael Eisterer²

¹TU Wien - USTEM, Austria

²TU Wien - Atominstitut, Austria

³A. A. Bochvar High-Technology Research Institute on Inorganic Materials, Russia

⁴CERN, Switzerland

2-MP-NB-I03

Effect of Zr doping of bronze matrix on the Nb₃Sn formation in Nb/Cu-Sn wires

Irina Deryagina¹, Elena Popova¹, Evgeny Patrakov¹

¹M.N. Miheev Institute of Metal Physics, Ural Branch, Russian Academy of Sciences, Russia

2-MP-NB-S04

Importance of Nb-Ta-Hf rod microstructure on grain size and properties of Nb₃Sn.

Shreyas Balachandran¹, Benjamin Walker¹, Chiara Tarantini¹, Nawaraj Paudel¹, Peter Lee¹, David Larbalestier¹

¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

2-MP-NB-S05

Mechanical properties for Nb₃Al superconducting wires with Ta or Nb matrices

Hidetoshi Oguro¹, Sora Mochizuki¹, Yuya Murakoshi¹, Noriaki Abe¹, Akihiro Kikuchi², Satoshi Awaji³

¹Tokai University, Japan

²National Institute for Materials Science, Japan

³Institute for Materials Research, Tohoku University, Japan

2-MP-NB-S06

Nb₃Al phase formation under different thermal heat treatments

Yong Zhao¹, Lian Xia², Pingyuan Li², Zhou Yu², Xinsheng Yong², Yongliang Chen², Yong Zhang², Xifeng Pan², Guo Yan³, Yong Feng³, Cuihua Cheng⁴

¹College of Physics and Energy, Fujian Normal University, China

²Southwest Jiaotong University, China

³Western Superconductivity Tech. Co. Ltd, China

⁴Fujian Normal University, China

2-MP-NB-S07

Lead-free persistent mode joints between NbTi wires

Timothy Davies¹, Claire Saxby¹, Tayeb Mousavi¹, Adrian Thomas², M'hamed Lakrimi², Chris Grovenor¹, Susannah Speller¹

¹Department of Materials, University of Oxford, United Kingdom

²Siemens Magnet Technology, United Kingdom

2-MP-NB-S08**Angular Dependence of the Upper Critical Field of ITER Nb-Ti Strands**Simon Chislett-McDonald¹, Michael Kovari², Elizabeth Surrey², Damian Hampshire¹¹Superconductivity Group, Centre for Materials Physics, Department of Physics, Durham University, United Kingdom²Culham Centre for Fusion Energy, Culham Science Centre, United Kingdom**2-MP-NB-S09****High field evaluation of Nb3Sn wires at EMFL to refine the Kramer extrapolation**Christopher Segal¹, Jerome Fleiter², Christian Barth², Bernardo Bordini², Amalia Ballarino², Chiara Tarantini¹, Peter Lee¹, David Larbalestier¹¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America²CERN, Switzerland**2-MP-NB-S10****Heat treatment optimization of bundle barrier Nb3Sn for the CERN Hi-Lumi upgrade**Christopher Segal¹, Simon Hopkins², Bernardo Bordini², Amalia Ballarino², Chiara Tarantini¹, Peter Lee¹, David Larbalestier¹¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America²CERN, Switzerland**2-MP-NB-I11****Impact of 440GeV Proton beams on Superconductors in a Cryogenic Environment**Andreas Will¹, Axel Bernhard², Marco Bonura³, Matthijs Mentink⁴, Arnaud Monteuvils⁴, Anke-Susanne Mueller², Andreas Oslandsbotn⁵, Carmine Senatore³, Ruediger Schmidt⁶, Jonathan Schubert⁴, Andrzej Siemko⁴, Krzysztof Stachon⁴, Arjan Verweij⁴, Daniel Wollmann⁴¹CERN, Switzerland and Karlsruhe Institute of Technology, Germany²Karlsruhe Institute of Technology, Germany³University of Geneva, Switzerland⁴CERN, Switzerland⁵Norwegian University of Science and Technology, Norway⁶CERN and Technische Universität Darmstadt, Switzerland**2-MP-NB-S12****Finite Element Analysis of Drawing Process for Nb3Sn Superconducting Strands**Yigong Shi¹, Bo Wu¹, Ke Zhang¹, Jianwei Liu¹, Jianfeng Li¹, Xianghong Liu¹, Yong Feng¹, Pingxiang Zhang²¹Western Superconducting Technologies Co., Ltd., China²Northwest Institute for non-ferrous Metal Research, China**2-MP-NB-S13****Enhanced Critical Current Densities of Nb3Sn Superconducting Strands in WST**Jianwei Liu¹, Yigong Shi¹, Bo Wu¹, Ke Zhang¹, Jianfeng Li¹, Xianghong Liu¹, Yong Feng¹, Pingxiang Zhang²¹Western Superconducting Technologies Co., Ltd., China²Northwest Institute for non-ferrous Metal Research, China

2-MP-NB-S14

Study on High Jc and Low AC Losses NbTi/Cu0.5Mn Superconducting Wire in WST

Qiang Guo¹, Ruilong Wang¹, Xing Qin¹, Yanmin Zhu¹, Kaijuan Yan¹, Jianwei Liu¹, Jianfeng Li¹, Xianghong Liu¹, Yong Feng¹, Pingxiang Zhang¹

¹Western Superconducting Technologies Co., Ltd., China

2-MP-NB-S15

The influence of processing methods and test methods on the n value of WIC wire

Kaijuan Yan¹, Qiang Guo¹, Kailin Zhang¹, Yanmin Zhu¹, Ruilong Wang¹, Jianwei Liu¹, Jianfeng Li¹, Xianghong Liu¹, Yong Feng¹, Pingxiang Zhang¹

¹Western Superconducting Technologies Co., Ltd., China

2-MP-NB-S16

Test results of WST high performance Nb3Sn strands

Yongliang Zhang¹, Chao Dai², Yu Wu², Kaihong Wu²

¹Chinese Academy of Science, China

²Institute of Plasma Physics Chinese Academy of Science, China

2-MP-NB-S17

Effect of applied strain on critical current of high-Jc Nb3Sn wire for FCC

Iksang Shin¹, Heonhwan Kim¹, Sinhye Na¹, Dukjae Yoon², Eung-zu Kim², Jiman Kim¹

¹Kiswire Advanced Technology Ltd., South Korea

²Metal Forming Technology R&D group, Korea Institute of Industrial Technology, South Korea

2-MP-NB-S18

A Study on the Characteristics of Nb3Sn wires with Two Separate Stabilized Areas

Sinhye Na¹, Heonhwan Kim¹, Iksang Shin¹, Dukjae Yoon², Eung-zu Kim², Jiman Kim¹

¹Kiswire Advanced Technology Ltd., South Korea

²Metal Forming Technology R&D group, Korea Institute of Industrial Technology, South Korea

2-MP-NB-S19

The Comparative Study of the Internal Tin Nb3Sn Wires with Different Layouts

Pavel Lukyanov¹, Maria Polikarpova¹, Daria Novosilova², Anastasia Tsapleva¹, Maxim Alekseev¹, Ildar Abdyukhanov¹, Alexander Silaev¹, Ksenia Bazaleeva¹, Viktor Pantsyrny¹, Mikhail Potapenko¹, Sergey Zernov³, Vladimir Sergeev⁴

¹JSC VNIINM, Russia

²JSC VNIIM, Russia

³TVEL Corporation, Russia

⁴NANO-ELECTRO LLC, Russia

2-MP-NB-S20

Development of the matrix reinforced Nb3Sn wires using Cu-Sn-In alloy matrices

Yoshimitsu Hishinuma¹, Hiroyasu Taniguchi², Akihiro Kikuchi³

¹National Institute for Fusion Science, Japan

²Osaka Alloying Works Co., Ltd, Japan

³National Institute for Materials Science, Japan

1530-1615 Refreshments & Exhibition

HALLS 1 & 2

Oral Session 4

1615-1815

1615-1815 **2-EO-QT - Quantum Technologies
[SPECIAL SESSION]**

ROOM: CLYDE AUDITORIUM

Chairs: Alexander Brinkman, University of Twente and Floriana Lombardi,
Chalmers University of Technology

1615

2-EO-QT-011

Magnetic field compatible circuit quantum electrodynamics

Maja Cassidy¹

¹Microsoft Quantum Sydney, Australia

1645

2-EO-QT-021

Surface spins as a source 1/f charge noise in superconducting devices

Tobias Lindstrom¹, Sebastian de Graaf¹, Jonathan Burnett¹, Alexander Ya.
Tzalenchuk¹, Sergey Kubatkin², Andrey Danilov², Lara Faoro³

¹National Physical Laboratory, United Kingdom

²Chalmers University of Technology, Sweden

³CNRS UMR, France

1715

2-EO-QT-035

**Simulation of a dynamic quantum phase transition using a
superconducting qubit**

Xueyi Guo¹, Chao Yang¹, Yirong Jin¹, Shu Chen¹, Heng Fan¹,
Dongning Zheng¹

¹Beijing National Laboratory for Condensed Matter Physics, Institute of
Physics, Chinese Academy of Sciences, China

1730

2-EO-QT-045

**Tavis-Cummings level splitting with intermediate-scale
superconducting circuits**

Martin Weides¹, Ping Yang², Jan Brehm², Juha Leppäkangas², Lingzhen Guo²,
Michael Marthaler², Isabella Bovenster³, Alexander Stehli², Tim Wolz², Alexey
Ustinov²

¹University of Glasgow, United Kingdom

²Karlsruhe Institute of Technology, Germany

³University of Mainz, Germany

TUESDAY

1745

2-EO-QT-055**Tuning of dissipation in magnetic Josephson junctions towards quantum devices**

Davide Massarotti¹, Roberta Caruso², Halima Giovanna Ahmad³, Alessandro Miano³, Niladri Banerjee⁴, Avradeep Pal⁴, Gabriele Campagnano³, Procolo Lucignano³, Matthias Eschrig⁵, Giovanni Piero Pepe³, Mark Blamire⁴, Francesco Tafuri³

¹Electrical Engineering and Information Technologies Department, University of Naples Federico II, CNR-SPIN UOS Napoli, Italy

²Physics Department "E. Pancini", University of Naples Federico II, CNR-SPIN UOS Napoli, SeeQC-eu, Italy

³Physics Department "E. Pancini", University of Naples Federico II, CNR-SPIN UOS Napoli, Italy

⁴Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom

⁵Department of Physics, Royal Holloway, University of London, United Kingdom

1800

2-EO-QT-065**Superconducting nanobridge electronics for next generation quantum devices**

Jon Collins¹, Connor D. Shelly¹, Umberto Nasti¹, Robert H Hadfield¹, Jonathan M Williams¹, Jane Ireland¹, Alessandro Casaburi¹

¹University of Glasgow, United Kingdom

1615-1815

2-MO-CP - Coated Conductors - Properties**ROOM: FORTH**

Chairs: Alexander Usoskin, Bruker and Mayraluna Lao, Karlsruhe Institute of Technology

1615

2-MO-CP-011**Examining vortex creep via electrical transport measurement of coated conductors**

Mayraluna Lao¹, Jens Hänisch¹, Dirk Fuchs¹, Bernhard Holzapfel¹

¹Karlsruhe Institute of Technology (KIT), Germany

1645

2-MO-CP-025**Analysis of angular dependent J_c of REBCO coated conductors with APCs**

Kaname Matsumoto¹, Yutaka Yoshida², Satoshi Awaji³, Yuji Tsuchiya², Tomoya Horide¹, Alok Jha¹

¹Kyushu Institute of Technology, Japan

²Nagoya University, Japan

³Tohoku University, Japan

1700

2-MO-CP-035**Pinning Properties of REBCO-CCs with Domain Control by High-T-Bending Annealing**

Tatsunori Okada¹, Hidenori Misaizu¹, Satoshi Awaji¹

¹Institute for Materials Research, Tohoku University, Japan

- 1715 **2-MO-CP-04S**
Hot spot creation in coated conductors used for fault current limitation
Fedor Gömöry¹, Ján Šouc¹, Michal Vojenčiak¹, Marek Mošat'¹, Marcela Pekarčíková², Crisian Lacroix³, Frédéric Sirois³
¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
²Faculty of Materials and Technologies in Trnava, Slovak University of Technology in Bratislava, Slovakia
³Department of Electrical Engineering, Polytechnique Montréal, Canada
- 1730 **2-MO-CP-05S**
In-field performance of long-length DD-YBCO coated conductors at 77 and 4.2 K
Johannes Gnisen¹, Alexander Usoskin², Michael Eisterer³, Ulrich Betz², Klaus Schlenga²
¹Bruker HTS GmbH, TU Wien, Germany
²Bruker HTS GmbH, Germany
³Atominstytut, TU Wien, Austria
- 1745 **2-MO-CP-06S**
2G HTS wire with high J_e at low temperature in high magnetic field
Anton Markelov¹, Valery Petrykin², Sergey Lee², Roman Valikov¹, Vsevolod Chepikov¹, Andrey Petrzhik¹, Burkhan Massalimov¹, Alexey Mankevich¹, Pavel Degtyarenko¹, Alexander Molodyk¹, Sergey Samoilencov¹
¹SuperOx, Russia
²SuperOx Japan LLC, Japan
- 1800 **2-MO-CP-07S**
Dynamic resistance measurement in a YBCO wire at various operating temperatures
Yanchao Liu¹, Zhenan Jiang², Gennady Sidrov², Chris Bumby², Rodney Badcock², Jin Fang³
¹Beijing Jiaotong University, Victoria University of Wellington, China
²Victoria University of Wellington, New Zealand
³Beijing Jiaotong University, China

1615-1815 **2-MO-AP - Broad Studies for Applications**

ROOM: GALA

Chairs: David Larbalestier, The National High Magnetic Field Laboratory and Mike Sumption, The Ohio State University, Materials Science Department

- 1615 **2-MO-AP-01I**
Wide range studies of $J_c(H,T,\text{angle})$ in Bi-2212 and REBCO coated conductors.
David Larbalestier¹

¹National High Magnetic Field Laboratory, United States of America

- 1645

2-MO-AP-021

The Magnetization of HTS cables for Particle Accelerator Applications

Mike Sumption¹

¹The Ohio State University, Materials Science Department, United States of America
- 1715

2-MO-AP-035

Design, Performance and Cabling Analysis of Nb3Sn Wires for the FCC Study

Simon C. Hopkins¹, Algirdas Baskys¹, Bernardo Bordini¹, Jerome Fleiter¹, Amalia Ballarino¹

¹CERN, Switzerland
- 1730

2-MO-AP-045

Coated Conductor technology for the beam screen of CERN FCC-hh

Joffre Gutierrez Royo¹, Artur Romanov¹, Patrick Krkotic², Joan O'Callaghan³, Danilo Andrea Zanin⁴, Holger Neupert⁴, Pedro Costa Pinto⁴, Pierre Demolon⁴, Angelo Rafael Granadeiro Costa⁴, Mauro Taborelli⁴, Francis Perez⁵, Montse Pont⁵, Sergio Calatroni⁴, Teresa Puig¹

¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain

²ALBA Synchrotron - CELLS, Universitat Politècnica de Catalunya - CommSensLab, Spain

³Universitat Politècnica de Catalunya - CommSensLab, Spain

⁴CERN, Switzerland

⁵ALBA Synchrotron - CELLS, Spain
- 1745

2-MO-AP-055

Development of REBCO tapes on dielectric flexible substrates for RF applications

Yuan Zhang¹, Martha Suarez-Villagran², Sicong Sun¹, Rudra Pratap¹, Eduard Galstyan¹, Jarek Wosik³, Venkat Selvamanickam¹

¹Department of Mechanical Engineering, University of Houston, Texas Center for Superconductivity, University of Houston, Advanced Manufacturing Institute, University of Houston, United States of America

²Texas Center for Superconductivity, University of Houston, United States of America

³Electrical and Computer Engineering Department, University of Houston, Texas Center for Superconductivity at University of Houston, United States of America
- 1800

2-MO-AP-065

Durham's Contribution to ITER's TF and PF Strand Verification Process

Mark Raine¹, Thierry Boutboul², Peter Readman², Damian Hampshire¹

¹European Fusion Energy Reference Laboratory - Metrology of Superconducting Strands. Superconductivity group, Centre for Materials Physics, Department of Physics, Durham University, United Kingdom

²ITER Delivery Department, Fusion for Energy, France

1615-1815	<p>2-LO-EA - Electric Aircraft</p> <p>[SPECIAL SESSION]</p>	ROOM: CARRON
Chairs: Tabea Arndt, Siemens and Mark Ainslie, University of Cambridge		

- 1615 **2-LO-EA-011**
Holistic system approach for electric aircraft using superconducting components
Martin Boll¹, Matthias Corduan², Stefan Biser³, Phillip Weber⁴, Lars Kuehn¹, Mykhaylo Filipenko¹, Sonja Schlachter⁵, Bernhard Holzapfel⁵, Frederick Timothy Neil Berg⁶, Peter Rostek⁷
¹Siemens AG, Corporate Technology- eAircraft, Germany
²Siemens AG, Corporate Technology- eAircraft, Karlsruhe Institute of Technology, Institute of Technical Physics, Germany
³Karlsruhe Institute of Technology- Institute of Technical Physics, Siemens AG, Corporate Technology- eAircraft, Germany
⁴Siemens AG, Corporate Technology- eAircraft, Institute of Avionics, University of Stuttgart, Germany
⁵Karlsruhe Institute of Technology, Institute of Technical Physics, Germany
⁶Airbus Central R&T, Germany
⁷Airbus Electric Aircraft Systems, Germany
- 1645 **2-LO-EA-025**
fully superconductive propulsion motor with 1MW for airborne application
Thomas Reis¹, Johannes Oswald¹, Bernhard Oswald¹, A.T.A.M. deWaele¹, Eva Berberich¹, Simon Wolfstädter¹, Christian Schneider¹
¹Oswald Elektromotoren GmbH, Germany
- 1700 **2-LO-EA-035**
Design consideration of fully HTS machines for future electric aircraft
Min Zhang¹, Fangjing Wen², Sriharsha Venuturumilli², Weijia Yuan²
¹University of Strathclyde, Shanghai Jiao tong University,
²University of Strathclyde, United Kingdom
- 1715 **2-LO-EA-045**
High Power Density 10 MW HTS-Generator for eAircraft
Lars Kuehn¹, Joern Grundmann¹, Marc Lessmann¹, Thomas Gleixner¹, Matthias Boehm¹, Stefan Moldenhauer¹, Dirk Moeller¹, Kerstin Haese¹, Mykhaylo Filipenko¹
¹Siemens AG, Germany
- 1730 **2-LO-EA-055**
Construction and Test of a Flux Modulation Superconducting Machine for Aircraft
Alexandre Colle¹, Jean Leveque², Thierry Lubin², Sabrina Ayat³, Olivier Gosselin³
¹Safran Tech and GREEN, University of Lorraine, France
²GREEN, University de Lorraine, France
³Safran Tech, France
- 1745 **2-LO-EA-065**
AC loss in the distributed stator winding of a 1 MW motor for aviation
Enric Pardo¹, Jan Kovac¹, Michal Vojenciak¹, Shuo Li², Francesco Grilli³, Yingzhen Liu³, Tara Benkel³, Simon Wolfstaedler⁴, Eva Berberich⁴, Thomas Reis⁴
¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
²Institute of Electrical Engineering, Slovak Academy of Sciences, College of Information Science and Engineering, Northeastern University, Shenyang, Slovakia
³Karlsruhe Institute of Technology (KIT), Germany
⁴Oswald Elektromotoren GmbH, Germany

1800

2-LO-EA-07S**Developing HTS electric propulsion machines using no-insulation (NI) coils**Yawei Wang¹, Fangjing Weng¹, Min Zhang¹, Weijia Yuan¹¹University of Strathclyde, United Kingdom1615-1815 **2-LO-FH - Fusion (HTS)****ROOM: DOCHART**

Chairs: Pierluigi Bruzzone, EPFL Lausanne and Ortensia Dicuonzo, EPFL-SPC

1615

2-LO-FH-011**Development of FAIR conductor and HTS coil for fusion experimental device**Toshiyuki Mito¹, Yuta Onodera¹, Kazuya Takahata¹, Nagato Yanagi¹, Noriko Chikamoto², Akifumi Kawagoe³, Shinji Hamaguchi¹, Suguru Takada¹, Akifumi Iwamoto¹, Tomosumi Baba¹¹National Institute for Fusion Science (NIFS), Japan²Chubu University, Japan³Kagoshima University, Japan

1645

2-LO-FH-02S**Development of 20 T conduction cooled non-insulated REBCO magnet technology**Robert Slade¹, Greg Brittles¹, Rod Bateman¹, Bas van Nugteren¹, Marcel Kruip¹, Tony Langtry¹, John Teah¹¹Tokamak Energy, United Kingdom

1700

2-LO-FH-03S**Development of HTS CORC® Cables and Joints for use in Magnets for Fusion**Jeremy Weiss¹, Danko van der Laan¹, Tim Mulder², Herman ten Kate²¹Advanced Conductor Technologies, University of Colorado, United States of America²CERN, University of Twente, Switzerland

1715

2-LO-FH-04S**Quench Study of REBCO Cable-In-Conduit Conductors**Rui Kang¹, Davide Uglietti², Kamil Sedlak², Rainer Wesche², Pierluigi Bruzzone², Boris Stepanov², Yuntao Song³¹University of Science and Technology of China, Department of Engineering and Applied Physics, China²École Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC), Switzerland³Institute of Plasma Physics, Chinese Academy of Sciences, China

1730

2-LO-FH-05S**Recent progress in development of HTS CICC for CFETR magnet**Jinggang Qin¹, Chao Zhou¹, Jin Huan et al¹¹Institute of Plasma Physics Chinese Academy of Sciences, China

1745

2-LO-FH-06S**Transposition in superconducting cables: which differences between LTS and HTS?**Davide Uglietti¹¹École Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC), Switzerland

1800

2-LO-FH-075**D shaped REBCO model coil for fusion by in-suit winding technology**Xinsheng Yang¹¹Southwest Jiaotong University, China**1615-1815 2-EO-DA - Detector Applications****ROOM: M2 & M3**

Chairs: Jukka Pekola, Aalto University and Francesca Chiodi, Université Paris Saclay/C2N

1615

2-EO-DA-011**Transition-Edge Sensor Development at NIST**Joel Ullom¹¹NIST and the University of Colorado, United States of America

1645

2-EO-DA-025**Practical Superconducting Single-Photon Detector with Micron-Wide Strip**Alexander Korneev¹, Yuliya Korneeva², Nadejda Manova², Eugeny Smirnov², Irina Florya², Margarita Polyakova³, Mikhail Mikhailov⁴, Denis Vodolazov⁵, Gregory Goltsman¹¹Moscow State Pedagogical University, National Research University Higher School of Economics, Russia²Moscow State Pedagogical University, Russia³National Research University Higher School of Economics, Moscow State Pedagogical University, Russia⁴B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Ukraine⁵Institute for Physics of Microstructures, Russian Academy of Sciences, Russia

1700

2-EO-DA-035**Neutron imaging by using current-biased Nb nanowire detector with 10B converter**Takekazu Ishida¹, The Dang Vu², Hiroaki Shishido³, Kazuma Nishimura⁴, Yuki Iizawa⁴, Kenji M Kojima⁵, Kenichi Oikawa², Masahide Harada², Shigeyuki Miyajima⁶, Mutsuo Hidaka⁷, Takayuki Oku², Kazuhiko Soyama², Kazuya Aizawa², Tomio Koyama⁸¹Division of Quantum and Radiation Engineering, Osaka Prefecture University, Sakai, NanoSquare Research Institute, Osaka Prefecture University, Japan²Materials and Life Science Division, J-PARC Center, Japan Atomic Energy Agency, Japan³Department of Physics and Electronics, Osaka Prefecture University, NanoSquare Research Institute, Osaka Prefecture University, Japan⁴Department of Physics and Electronics, Osaka Prefecture University, Japan⁵Centre for Molecular and Materials Science, TRIUMF and Stewart Blusson Quantum Matter Institute, University of British Columbia, Canada⁶Advanced ICT Research Institute, National Institute of Information and Communications Technology, Japan⁷National Institute of Advanced Industrial Science and Technology, Japan⁸Division of Quantum and Radiation Engineering, Osaka Prefecture University, Japan

TUESDAY

1715

2-EO-DA-04S**TES microcalorimeter detectors suitable for neutrino mass measurement**

Andrea Giachero¹, Daniel T Becker², Douglas A. Bennett², Matteo Borghesi¹, Michele Biasotti³, Matteo De Gerone⁴, Marco Faverzani¹, Joseph W. Fowler², Giovanni Gallucci⁴, Johnathon D. Gard², Gene C. Hilton², John A. B. Mates², Angelo Nucciotti¹, Gianluigi Pessina⁵, Andrei P. Puiu¹, Carl D. Reintsema², Daniel R. Schmidt², Daniel S. Swetz², Joel N. Ullom², Leila R. Vale²

¹University of Milano - Bicocca, INFN of Milano - Bicocca, Italy

²National Institute of Standards and Technology, United States of America

³Dipartimento di Fisica, Università di Genova/INFN - Sezione di Genova, Italy

⁴INFN - Sezione di Genova, Italy

⁵INFN of Milano-Bicocca, Italy

1730

2-EO-DA-05S**Nanosecond thermometry with Josephson junction**

Maciej Zgirski¹, Marek Foltyn¹, Alexander Savin², Konrad Norowski¹, Andrii Naumov¹

¹Institute of Physics, Polish Academy of Sciences, Poland

²Low Temperature Laboratory, Department of Applied Physics, Aalto University School of Science, Poland

1745

2-EO-DA-06S**Hafnium MEGA array detector**

Alexey Merenkov¹, Vladimir Chichkov¹, Andrey Ermakov², Alexey Ustinov³, Sergey Shitov⁴

¹National University of Science and Technology MISIS, Russia

²Kotel'nikov Institute of Radio Engineering and Electronics, Russia

³Physikalisches Institut, Karlsruhe Institute of Technology (KIT), Germany and National University of Science and Technology MISIS, Germany

⁴National University of Science and Technology MISIS, Kotel'nikov Institute of Radio Engineering and Electronics, Russia

1800

2-EO-DA-07S**The original seeds of superconducting phase transition during detection in SNSPD**

Labao Zhang¹, Qi Chen¹, Biao Zhang¹, Xiaoqing Jiao¹, Qingyuan Zhao¹, Lin Kang¹, Jian Chen¹, Peiheng Wu¹

¹Nanjing University, China

1830-2000 **Evening Lecture - James Watt and Precision Engineering**

CLYDE AUDITORIUM

Prof John Marsh, School of Engineering, University of Glasgow

WEDNESDAY 4 SEPTEMBER



EUCAS 2019
GLASGOW

WEDNESDAY 4 SEPTEMBER

0845-0900 **The Jan Evetts SUST Award** **CLYDE AUDITORIUM**

0900-1000 **3-MO-PL2 Plenary** **CLYDE AUDITORIUM**
Chairs: John Durrell, University of Cambridge
and Susannah Speller, University of Oxford

Superconductors in High Magnetic Fields – Now and the future
Satoshi Awaji
Institute for Materials Research, Tohoku University, Japan

1000-1045 **Refreshments & Exhibition** **HALLS 1 & 2**

1045-1245 **Oral Session 5**

1245-1400 **Lunch** **HALLS 1 & 2**

1400-1600 **Poster Session 3** **HALL 2**

1530-1615 **Refreshments & Exhibition** **HALLS 1 & 2**

1615-1815 **Oral Session 6**

1930-2000 **Coaches depart for Merchant Square**

2000-0100 **Conference Dinner & Ceilidh at Merchant Square**

2300-0100 **Shuttle coaches depart for SEC**

WEDNESDAY 4 SEPTEMBER

0845-0900	The Jan Evetts SUST Award	CLYDE AUDITORIUM
0900-1000	3-MO-PL2 Plenary Chairs: John Durrell, University of Cambridge and Susannah Speller, University of Oxford	CLYDE AUDITORIUM

Superconductors in High Magnetic Fields – Now and the future

Satoshi Awaji

Institute for Materials Research, Tohoku University, Japan



Satoshi Awaji received a MSc in physics from Hiroshima University in 1990 before becoming a research associate at Tohoku University. He received an Engineering Doctorate from Tohoku University in 1998. Since 2016, he has been a professor at High Field Laboratory for Superconducting Materials (HFLSM), Institute for Materials Research, Tohoku University. He is an experimental scientist on superconducting materials research and high field magnet with experiences in the

physics of superconducting materials and also in technology of high field superconducting magnets. His specialty areas of expertise are critical currents of practical superconducting wires/tapes and (cryogen-free) superconducting magnets with high temperature superconductors and Nb₃Sn. He is mostly involved in the understanding the flux pinning mechanism of practical superconducting materials and in the developing the high field cryogen-free superconducting magnets, as well as managing the user program of the HFLSM. He has published more than 541 ISI journal papers.

This plenary is sponsored by Sumitomo



1000-1045	Refreshments & Exhibition	HALLS 1 & 2
1045-1245	Oral Session 5	
1045-1245	3-LO-HH - High Field HTS	ROOM: CLYDE AUDITORIUM
Chairs: Davide Uglietti, Ecole Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC) and Quiliang Wang, Chinese Academy of Sciences (IEECAS)		

1045

3-LO-HH-011**Progress on No-Insulation HTS Magnet Technology**

Seung Yong Hahn¹, Iain Dixon², Thomas Painter², Kwanglok Kim², Kwangmin Kim², Xinbo Hu², Kabindra Bhattarai², So Noguchi³, Seokho Kim⁴, Jeseok Bang⁵, Uijong Bong⁵, Subin An⁵, David Larbalestier²

¹Seoul National University, National High Magnetic Field Laboratory, Korea, South

²National High Magnetic Field Laboratory, United States of America

³Hokkaido University, National High Magnetic Field Laboratory, Japan

⁴Changwon National University, National High Magnetic Field Laboratory, Korea, South

⁵Seoul National University, Korea, South

1115

3-LO-HH-025**A 10 T HTS Insert made of MI Pancakes Tested in a Magnetic Field up to 20 T**

Xavier CHAUD¹, Jung-Bin Song¹, François Debray¹, Thibault Lecrevisse², Philippe Fazilleau²

¹LNCMI-EMFL-CNRS, UGA, INSA, UPS, France

²IRFU, CEA, Université Paris-Saclay, France

1130

3-LO-HH-035**Design and performance evaluation of a 25 T all superconducting magnet**

Xintao Zhang¹, Yi Shi², Huajun Liu², Fang Liu², Yunfei Tan³, Hongjun Ma², Chao Tian², Lei Lei²

¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China

²Institute of Plasma Physics Chinese Academy of Sciences, China

³Wuhan National High Magnetic Field Center, Huazhong University Science and Technology, China

1145

3-LO-HH-045**High Field Flux Pumped Magnets**

Tim Coombs¹, Yavuz Ozturk¹, Boyang Shen¹, Tom Painter²

¹University of Cambridge, United Kingdom

²NHMFL, United States of America

1200

3-LO-HH-055**Bi-2212 Coil R&D for High Field Magnets**

Ulf Trociewitz¹, Ernesto Bosque¹, Youngjae Kim¹, Daniel Davis¹, Charles English¹, Jianyi Jiang¹, Eric Hellstrom¹, Imam Hossain¹, Shaon Barua¹, Yavuz Oz¹, George Miller¹, Jun Lu², Jeremy Levitan², David Larbalestier¹

¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

²MST/NHMFL, United States of America

1215

3-LO-HH-065**Electrical and thermal behaviours of INS and NI HTS-wound pancake coils at 77 K**

Roland Gyuráki¹, Fabian Schreiner¹, Tara Benkel¹, Frédéric Sirois², Francesco Grilli¹

¹Karlsruhe Institute of Technology (KIT), Germany

²Polytechnique Montreal, Canada

- 1230 **3-LO-HH-07S**
A REBCO superconducting switch for reducing temporal fluctuations in driven-mode
 Sadanori Iwai¹, Yasumi Otani¹, Hiroshi Miyazaki¹, Shunji Nomura¹, Toshinobu Ito¹

¹Toshiba Energy Systems & Solutions Corporation, Japan

1045-1245 **3-MO-FP4 - Critical Current and Flux Pinning 4**

ROOM: FORTH

Chairs: Jens Hänisch, Karlsruhe Institute of Technology and Michael Eisterer, TU Wien

- 1045 **3-MO-FP4-011**
Neutron irradiation: introduced defects and effects on various superconductors
 Michael Eisterer¹, David X. Fischer¹, Daniel Kagerbauer¹, Raphael Unterrainer¹, Thomas Baumgartner¹, Stephan Pfeiffer², Johannes Bernardi²

¹Atominstitut, TU Wien, Austria

²USTEM, TU Wien, Austria

- 1115 **3-MO-FP4-02S**
Critical current anisotropy in Fe(Se,Te) films irradiated by high-energy protons
 Gaia Grimaldi¹, Antonio Leo², Angela Nigro², Gianluca Ghigo³, Laura Gozzelino³, Daniele Torsello³, Valeria Braccini¹, Giulia Sylva⁴, Carlo Ferdeghini¹, Marina Putti⁴

¹CNR - SPIN, Italy

²Physics Department, University of Salerno, Jamaica

³Department of Applied Science and Technology, Politecnico di Torino and INFN Sezione di Torino, Italy

⁴Physics Department, University of Genova, Japan

- 1130 **3-MO-FP4-03S**
Power law correlation between T_c and J_c in neutron irradiated Ba-122 crystals
 Daniel Kagerbauer¹, Shigeyuki Ishida², Ventsislav Mishev¹, Dongjoon Song², Hiraku Ogino², Hiroshi Eisaki², Masamichi Nakajima³, Akira Iyo², Michael Eisterer¹

¹Atominstitut, TU Wien, Austria

²Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan

³Department of Physics, Osaka University, Japan

1145

3-MO-FP4-04S**Intrinsic anisotropy in nanostructured YBa₂Cu₃O_{7-x} from microwave measurements**

Enrico Silva¹, Andrea Alimenti¹, Kostiantyn Torokhtii¹, Benedetta Belli², Anna Palau³, Teresa Puig⁴, Elena Bartolomé⁵, Nicola Pompeo¹

¹Dipartimento di Ingegneria, Università Roma Tre, Italy

²Università Roma Tre, Italy

³Institut de Ciència de Materials de Barcelona-CSIC, Bellaterra, Spain, Spain

⁴ICMB-CSIC, Spain

⁵Escola Universitaria Salesiana de Sarrià (EUSS), Spain

1200

3-MO-FP4-05S**Resistivity of HTS tapes in overcritical current regime: impact on SFCL modeling**

Nicolo Riva¹, Francesco Grilli², Frédéric Sirois³, Simon Richard³, Christian Lacroix³, Bertrand Dutoit¹

¹Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

²Karlsruhe Institute of Technology ITP (KIT), Germany

³Polytechnique Montreal (PM), Canada

1215

3-MO-FP4-06S**Growth of CSD low fluorine YBCO superconducting layers on sapphire substrates**

Cornelia Pop¹, Pedro Barusco¹, Amir Saraf², Valentina Roxana Vlad³, Susagna Ricart¹, Guy Deutscher², Xavier Granados¹, Albert Calleja³, Teresa Puig¹, Xavier Obradors¹

¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain

²Tel Aviv University, Israel

³Oxolutia SL, Spain

1045-1245

3-MO-BM - BiSCCO-based Materials and MgB₂**ROOM: GALA**

Chairs: Tetiana Prikhna, Institute for Superhard Materials of the National Academy of Sciences of Ukraine and Akiyasu Yamamoto, Tokyo University of Agriculture and Technology

1045

3-MO-BM-01S**Absence of Weak-Link Signature in Severely Underdoped Bi-2212 Round Wires**

Yavuz Oz¹, Jianyi Jiang¹, Maxime Matras², Abiola Oloye¹, Fumitake Kametani¹, Eric Hellstrom¹, David C. Larbalestier¹

¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

²CERN, Switzerland

- 1100 **3-MO-BM-02S**
Effects of precursor powder on the performance of Bi-2212 round wires
 Jianyi Jiang¹, Andre Juliao¹, S. Imam Hossain¹, Yavuz Oz¹, Michael D. Brown¹, Daniel S. Davis¹, Abiola Oloye¹, Jonathan Cooper¹, Evan Miller¹, Fumitake Kametani¹, Ulf P. Trociewitz¹, Eric E. Hellstrom¹, David C. Larbalestier¹
¹National High Magnetic Field Laboratory, Florida State University, United States of America
- 1115 **3-MO-BM-03S**
Could we do without the OP process? Bi-2212 wire development at CNR-SPIN
 Alessandro Leveratto¹, Giuseppe Celentano², Sandro Chiarelli², Andrea Traverso³, Marina Putti³, Amalia Ballarino⁴, Simon Hopkins⁴, Andrea Malagoli¹
¹CNR - SPIN, Italy
²ENEA Frascati Research Centre, Italy
³University of Genova, Italy
⁴CERN, Switzerland
- 1130 **3-MO-BM-04S**
Strategies for Improving Ic of Superconducting Joint Connecting Bi2223 Tapes
Jun-ichi Shimoyama¹, Yasuaki Takeda², Takanori Motoki¹
¹Aoyama Gakuin University, Japan
²University of Tokyo, Japan
- 1145 **3-MO-BM-05S**
Development of MgB2 superconductor wire and coils for AC and DC applications
Mike Tomsic¹, Matt Rindfleisch¹, Xuan Peng¹, Dave Doll¹, Mike Sumption², Edward Collings²
¹Hyper Tech Research Inc., United States of America
²The Ohio State University, United States of America
- 1200 **3-MO-BM-06S**
Development of high-Jc MgB2 wires fabricated from mechanically milled powder
Motomune Kodama¹, Hiroshi Kotaki¹, Takaaki Suzuki¹, Hideki Tanaka², Ryuya Ando¹, Takeshi Nakayama¹, Gen Nishijima³, Akiyoshi Matsumoto³, Akiyasu Yamamoto⁴, Jun-ichi Shimoyama⁵
¹Research & Development Group, Hitachi Ltd., Japan
²Research & Development Group, Hitachi Ltd, Japan
³High-Temperature Superconducting Wire Group, National Institute for Materials Science, Japan
⁴Department of Applied Physics, Tokyo University of Agriculture and Technology, Japan
⁵Department of Physics and Mathematics, Aoyama Gakuin University, Japan

1215

3-MO-BM-07S**Reverse AIMI to produce dense MgB₂ bulks and high J_c wires through HIP treatment**

Gianmarco Bovone¹, Marco Capra¹, Cristina Bernini¹, Federico Loria¹, Tomasz Cetner², Daniel Gajda³, Andrzej Morawski⁴, Amalia Ballarino⁵, Simon Hopkins⁵, Marina Putti⁶, Carlo Ferdeghini¹, Maurizio Vignolo¹

¹SPIN Institute, Italy

²Unipress - Institute of High Pressure Physics PAS, Poland

³International Laboratory High Magnetic Fields and Low Temperature, Poland

⁴Unipress - Institute of High Pressure Physics, Poland

⁵CERN, Switzerland

⁶Physics Department - University of Genova, Italy

1230

3-MO-BM-08S**Occurrence of Flux Jumps in MgB₂ Bulk Magnets during Pulse-Field Magnetization**

Naomichi Sakai¹, Tetsuo Oka¹, Kengo Yamanaka¹, Longji Dadiel¹, Hayami Oki², Jun Ogawa², Satoshi Fukui², Juliane Scheiter³, Wolfgang Häßler³, Kazuya Yokoyama⁴, Jacques Noudem⁵, Muralidhar Miryala¹, Masato Murakami¹

¹Shibaura Institute of Technology, Japan

²Niigata University, Japan

³IFW Dresden, Germany

⁴Ashikaga University, Japan

⁵Normandie University, France

1045-1245 **3-EO-SNQ - SQUIDs and NanoSQUIDs****ROOM: CARRON**

Chairs: Hans Hilgenkamp, University of Twente and Cathy Foley, CSIRO

1045

3-EO-SNQ-011**NanoSQUID-on-tip thermal imaging: glimpse into dissipation in quantum systems**

Eli Zeldov¹

¹Weizmann Institute of Science, Israel

1115

3-EO-SNQ-02S**Tuning superconducting-resonator-frequency with SQUIDs and global fields**

Oscar Kennedy¹, Christoph W Zollitsch¹, James O'Sullivan¹, Gavin Dold¹, Jonathan Burnett², Paul Warburton¹, Eva Dupont-Ferrier³, John JL Morton¹

¹London Centre for Nanotechnology, UCL, United Kingdom

²National Physical Laboratory, United Kingdom

³Department of Physics, University of Sherbrooke, Canada

1130

3-EO-SNQ-03S**Y-Ba-Cu-O nano SQUIDs fabricated with a focused helium ion beam**

Shane Cybart¹

¹UC Riverside, UC San Diego, United States of America

- 1145 **3-EO-SNQ-04S**
The development of 3D nano-SQUID at SIMIT
Lei Chen¹, Zeng Wang¹
¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China
- 1200 **3-EO-SNQ-05S**
Grooved Dayem Nanobridges as Building Blocks of YBCO SQUID Magnetometers
 Edoardo Trabaldo¹, Christoph Pfeiffer¹, Eric Andersson¹, Riccardo Arpaia², Alexei Kalaboukhov¹, Dag Winkler¹, Floriana Lombardi¹, Thilo Bauch¹
¹Microtechnology and Nanoscience, Chalmers University of Technology, Sweden
²Microtechnology and Nanoscience, Chalmers University of Technology, Sweden and Dipartimento di Fisica, Politecnico di Milano, Italy,
- 1215 **3-EO-SNQ-06S**
SQUID readout with high dynamic range and intrinsic multiplexing capability
 Daniel Richter¹, Andreas Fleischmann¹, Christian Enss¹, Sebastian Kempf¹
¹Kirchhoff-Institute for Physics, Heidelberg University, Germany
- 1230 **3-EO-SNQ-07S**
Fine tuning and optimization of SQUID devices parameters by a thermal annealing
Carmine Granata¹, Antonio Vettoliere¹, Massimo Valentino¹, Berardo Ruggiero¹, Paolo Silvestrini²
¹Institute of Applied Sciences and Intelligent Systems - National Research Council, Italy
²Department of Mathematics and Physics, University of Campania "L. Vanvitelli", Italy

1045-1245	3-EO-FA - Device Fabrication and Applications	ROOM: DOCHART
Chairs: Huabing Wang, Nanjing University and Joel Ullom, NIST and the University of Colorado		

- 1045 **3-EO-FA-01I**
Fast thermometry and ultrasensitive calorimetry for microwave photons
Jukka Pekola¹, Bayan Karimi¹, Libin Wang¹
¹Aalto University, Finland

1115 **Withdrawn**

1130 **3-EO-FA-03S**
Cryogenic Calibration of the RF Josephson Arbitrary Waveform Synthesizer
Justus Brevik¹, Manuel Castellanos-Beltran¹, Anna Fox¹, Paul Dresselhaus¹,
 Peter Hopkins¹, Samuel Benz¹

¹National Institute of Standards and Technology Boulder, United States of America

1145 **3-EO-FA-04S**
Increasing Integration of Superconductor Electronics Beyond One Million Devices
Sergey Tolpygo¹

¹MIT Lincoln Laboratory, United States of America

1200 **3-EO-FA-05S**
Josephson Junction based Single Photon Counter at 14 GHz for searching Axions
Leonid Kuzmin¹, Andrey Pankratov², Leonid Revin², Anna Gordeeva², Nicolo Crescini³, Alexandr Sobolev⁴, Claudio Gatti⁵, Daniele Di Gioacchino⁵, Ilichev Evgeni⁶, Anton Yablokov², G Ruoso⁵, Giovanni Carugno⁵

¹Chalmers University of Technology, Sweden

²Nizhny Novgorod State Technical University,

³Dipartimento di Fisica e Astronomia, Italy

⁴Institute of Radio Engineering and Electronics, Russia

⁵INFN, Italy

⁶Leibniz-IPHT, Germany

1215 **3-EO-FA-06S**
Neon focussed-ion-beams for nanofabrication of superconducting nanowires
Paul Warburton¹, Oscar Kennedy¹, Jamie Potter¹, Nicolas Constantino¹,
 Jonathan Burnett², Jon Fenton³

¹University College London, United Kingdom

²Chalmers University, Sweden

³Imperial College London, United Kingdom

1230 **3-EO-FA-07S**
Superspintronics – towards ultra-low dissipation spin-electronics
Niladri Banerjee¹

¹Loughborough University, United Kingdom

1045-1245 **3-LO-CA - Superconducting Cavities**
[SPECIAL SESSION]

ROOM: M2 & M3

Chairs: Lance Cooley, Florida State University / National High Magnetic Field Laboratory and Frank Gerigk, CERN

1045 **3-LO-CA-01I**
Overview - Materials Requirements For Superconducting RF Cavities
Anne-Marie Valente-Feliciano¹

¹Thomas Jefferson National Accelerator Facility, United States of America

- 1115 **3-LO-CA-02I**
Applying material science of pinning in high Jc materials to SRF materials
Lance Cooley¹
¹Florida State University, National High Magnetic Field Laboratory, United States of America
- 1145 **3-LO-CA-03I**
Theoretical understanding of pinning in SRF cavities
Alex Gurevich¹
¹Old Dominion University, United States of America
- 1215 **3-LO-CA-04I**
Materials fabrication in SRF cavities: beyond niobium
Sergio Calatroni¹
¹CERN, Switzerland
- 1245 **3-LO-CA-05S**
First Protons Beam Tests of Crab Cavities in the SPS
Rama Calaga¹
¹CERN, Switzerland

1245-1400 **Lunch**

HALLS 1 & 2

Poster Session 3

1400-1600

HALL 2

3-EP-QQ - Quantum Devices and Quantum Information Processing

Chairs: Martin Weides, University of Glasgow and Dongning Zheng, Institute of Physics, Chinese Academy of Sciences

3-EP-QQ-S01

Implementation of coherent cross junctions for superconducting quantum circuits

Alexander Stehli¹, Hannes Rotzinger¹, Jan Brehm¹, Alexey V. Ustinov¹, Martin Weides²

¹Karlsruhe Institute of Technology (KIT), Germany

²University of Glasgow, United Kingdom and Karlsruhe Institute of Technology (KIT), Germany

3-EP-QQ-S02

Cross-junctions for superconducting quantum technology

Valentino Seferai¹, Sergey Danilin¹, Paul Baity¹, Dmytro Bozhko¹, Umberto Nasti¹, Alessandro Casaburi¹, Robert Hadfield¹, Martin Weides¹

¹University of Glasgow, United Kingdom

3-EP-QQ-S03

Self-guided transfer of spin-polarized wave packets in a hybrid quantum setup

Olena Zhytlukhina¹, Mikhail Belogolovskii², Paul Seidel³

¹O.O. Galkin Donetsk Institute for Physics and Engineering, National Academy of Sciences of Ukraine, Ukraine

²G.V. Kurdyumov Institute for Metal Physics, National Academy of Sciences of Ukraine, Ukraine

³Institut für Festkörperphysik, Friedrich-Schiller-Universität Jena, Germany

3-EP-QQ-S04

Quantum Phase Slip in NbN Nanowire-Embedded Coplanar Waveguide Resonators

Jamie A. Potter¹, J. C. Fenton², Paul Warburton¹

¹University College London, United Kingdom

²Imperial College London, United Kingdom

3-EP-QQ-S05

Reverse Annealing with Flux Qubits

Nedeen AlSharif¹, Louis Fry-Bouriaux¹, Paul A. Warburton¹

¹University College London, United Kingdom

3-EP-QQ-S06

Flux-noise spectroscopy with a superconducting transmon qubit

Tim Wolz¹, Andre Schneider¹, Jochen Braumüller², Alexey V. Ustinov³, Martin Weides⁴

¹Karlsruhe Institute of Technology (KIT), Germany

²Massachusetts Institute of Technology, United States of America

³Russian Quantum Center, Russia

⁴University of Glasgow, United Kingdom

3-EP-QQ-S07

rf SQUID Metamaterials: A Nonlinear Setting for Applications

Steven Anlage¹

¹University of Maryland, United States of America

3-EP-QQ-I08

Symmetric rf-SQUID: universal device for Scalable Quantum Information Processing

Alessandro Miano¹, Davide Massarotti¹, Roberta Caruso¹, Giovanni Piero Pepe², Francesco Tafuri¹, Oleg Mukhanov³

¹University of Naples Federico II, Italy

²CNR-SPIN, Italy

³HYPRES - SeeQC, Inc., United States of America

3-EP-SQ - SQUID and SQIF Applications

Chairs: Jane Ireland, National Physical Laboratory and Anna Ferring, Heidelberg University

3-EP-SQ-I01

Fabrication induced excess flux noise in superconducting quantum devices

Anna Ferring¹, Christian Enss¹, Sebastian Kempf¹

¹Kirchhoff-Institute for Physics, Heidelberg University, Germany

3-EP-SQ-I02**Proposal of SQUIDs with a period of half flux quantum in modulation patterns**

Yuto Takeshita¹, Daiki Hasegawa¹, Tomohiro Kamiya¹, Kyosuke Sano¹, Masamitsu Tanaka¹, Taro Yamashita², Akira Fujimaki¹

¹Department of Electronics, Nagoya University, Japan

²Department of Electronics, Nagoya University, JST-PRESTO, Japan

3-EP-SQ-I03**Investigation of NanoSQUIDs Fabricated with a Range of Focused Ion Beam Sources**

Elias Polychroniou¹, Tom Godfrey², John Gallop³, David Cox³, George Long³, Jie Chen⁴, Ed Romans⁵, Mark Oxborrow⁶, Ling Hao⁷

¹Imperial College London, National Physical Laboratory, United Kingdom

²London Centre for Nanotechnology, University College London, National Physical Laboratory, United Kingdom

³National Physical Laboratory, United Kingdom

⁴Brunel University, United Kingdom

⁵London Centre for Nanotechnology, University College London, United Kingdom

⁶Imperial College London, United Kingdom

⁷National Physical Laboratory, Imperial College London, United Kingdom

3-EP-SQ-I04**Measurement of Magnetic particles by Hexagonal Pseudo 7-channel HTS SQUID Array**

Saburo Tanaka¹, Moriki Kabasawa¹, Kanji Hayashi¹, Tekeyoshi Ohtani¹

¹Toyohashi University of Technology, Japan

3-EP-SQ-I05**Flux-coupled asynchronous hybrid SQUID operating in a closed cycle GM cooler**

Ugur Yilmaz¹, Sasan Razmkhah¹, Ali Bozbey², Pascal Febvre¹

¹IMEP-LAHC, University of Savoie Mont Blanc, France

²Department of Electrical and Electronics Engineering, TOBB University of Economics and Technology, Turkey

3-EP-SQ-S06**YBCO nanoSQUIDs based on grain boundary junctions on MgO bicrystal substrates**

Jianxin Lin¹, Benedikt Müller¹, Julian Linek¹, Max Karrer¹, Malte Wenzel¹, Reinhold Kleiner¹, Dieter Kölle¹

¹Physikalisches Institut und Center for Quantum Science (CQ) in UISA+, Universität Tübingen, Germany

3-EP-SQ-S07**Ultra-Low Field Magnetic Resonance Imaging Based On Hyperpolarized Xe-129**

Xiaolei Huang¹

¹Peter Grünberg Institute, Germany

3-EP-SQ-S08**Hybrid cooling system with cryocooler and liquid-nitrogen for HTS-SQUID systems**

Tsunehiro Hato¹, Akira Tsukamoto¹, Seiji Adachi¹, Keiichi Tanabe¹

¹Superconducting Sensing Technology Research Association, Japan

3-EP-SQ-S09

SQUID NMR spin-echo magnetometer with dynamic nuclear polarization

Seong-Joo Lee¹, Jeong Hyun Shim¹, Kwon Kyu Yu¹, Seong-min Hwang¹, Sangwon Oh¹, Ingo Hilschensch¹, Kiwoong Kim¹

¹Korea Research Institute of Standards and Science, South Korea

3-EP-SQ-S10

Overhauser Hyperpolarisation MRI beyonds its limit in microtesla fields

Ingo Hilschensch¹, Jeong Hyun Shim¹, Sangwon Oh¹, Seong-Joo Lee¹, Kwon Kyu Yu¹, Seong-min Hwang¹, Kiwoong Kim¹

¹Korea Research Institute of Standards and Science, South Korea

3-EP-SQ-S11

Optimal Loop Size in Arrays of High Temperature SQUIDS

Denis Crété¹, Yves Lemaître², Jérôme Lesueur³, Bruno Marcilhac², Eliana Recoba-Pawlowski², Juan Trastoy²

¹Unité Mixte de Physique CNRS/THALES, THALES Research & Technology, France

²Unité Mixte de Physique CNRS/THALES, France

³Laboratoire de Physique et Matériaux, ESPCI - Paris Tech, France

3-EP-SQ-S12

NanoSQUIDs based on Nb nanobridges

M. I. Faley¹, Rebecca Rodrigo¹, R. E. Dunin-Borkowski¹

¹Peter Grünberg Institute, Germany

3-EP-SQ-S13

Design and testing of HTS DC SQUIDS manufactured using ion irradiation

Michal Janosek¹, Elda Saunderson², Paul Amari³, François Couëdo³, Cheryl Feuillet-Palma³, Nicolas Bergeal³, Jérôme Lesueur³, Ugur Yilmaz⁴, Coenrad Fourie⁵, Pascal Febvre⁴

¹Department of Measurement, FEE, Czech Technical University, Czech Republic, Department of Electrical and Electronic Engineering, Stellenbosch University, Czech Republic

²Directorate Space Science, South African National Space Agency, Department of Electrical and Electronic Engineering, Stellenbosch University, South Africa

³Laboratoire de Physique et d'Etude des Matériaux - ESPCI-Paris-CNRS-UPMC PSL Research University, France

⁴IMEP-LAHC, CNRS UMR5130, Université Savoie Mont Blanc, France

⁵Department of Electrical and Electronic Engineering, Stellenbosch University, South Africa

3-EP-SQ-S14

Two-dimensional magnetic field dependence of the dc-SQUID

Norimichi Watanabe¹, Shota Atsumi¹, Akiya Sean Ebana¹, Kazuki Kobayashi¹, Takuya Hikosaka¹, Akiyoshi Nakayama¹

¹Kanagawa University, Japan

3-EP-SQ-S16

Non-contacting guided wave testing for ferromagnetic pipes using HTS-SQUID

Yoshimi Hatsukade¹, Yuki Azuma¹, Keisuke Watanabe¹

¹Kindai University, Japan

3-EP-SQ-S17**High-Tc SQUID-based low-field NMR for human liver tumor discrimination**

Herng-Er Horng¹, Yu-Ting Liao¹, Hao-Wei Huang¹, Dennis W. Hwang², Shu-Hsien Liao¹, Kai-Weng Huang³

¹National Taiwan Normal University,

²Institute of Biomedical Sciences, Academia Sinica,

³Graduate Institute of Clinical Medicine, National Taiwan University,

3-EP-SQ-S18**Compact Model Extraction for Superconducting Gradiometers in Magnetic Fields**

Kyle Jackman¹, Coenrad Johann Fourie¹

¹Department of Electrical and Electronic Engineering, Stellenbosch University, South Africa

3-EP-SQ-S19**High-Resolution Digital SQUID Magnetometer using sub-flux quantum feedback**

Hiroaki Myoren¹, Kosuke Okabe¹, Ryo Matsunawa¹, Kohki Itagaki¹, Masato Naruse¹, Tohru Taino¹

¹Graduate School of Science and Engineering, Saitama University, Japan

3-EP-SQ-S20**HTS SQUID-based relaxometry for Biomagnetic Imaging**

Shu-Hsien Liao¹, Wei-Wen Chiu¹, Yu-Ren Chen¹, Han-Sheng Huang¹

¹National Taiwan Normal University, China, Republic of (Taiwan)

3-EP-SQ-S21**Two-dimensional HTS SQIF array absolute magnetic field sensor**

Shane T. Keenan¹, Emma E. Mitchell¹, Jeina Y. Lazar¹, Wendy E. Purches¹, William Vasilevski¹, Karl Wilson¹

¹CSIRO, Australia

3-EP-SQ-S22**SQUID array with sub-micron Josephson junctions using cross-line process**

Xue Zhang¹, Guofeng Zhang¹, Liliang Ying¹, Yongliang Wang¹, Liangliang Rong¹, Zhen Wang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

3-EP-SQ-S23**Improvement of low-Tc SQUID based ultra-low field magnetic resonance system**

Quan Tao¹, Hui Dong¹, Yongqiang Li¹, Mengmeng Yu¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

3-EP-SQ-S24**Multichannel low-noise Nb SQUID systems cooled by continuous reliquefaction**

Yong-Ho Lee¹, Kwon-Kyu Yu¹, Hyukchan Kwon¹, Jin-Mok Kim¹, Sang-Kil Lee¹, Kiwoong Kim¹

¹Korea Research Institute of Standards and Science, South Korea

3-EP-SQ-S25

Development of inductive microwave nanoSQUIDs for Quantum Technology

Tom Godfrey¹

¹University College London, National Physical Laboratory, United Kingdom

3-EP-SQ-S26

Optimization Design and Exploration of Airborne Superconducting FTMG

Jun Wu¹, Liangliang Rong¹, Longqing Qiu¹, Shuling Zhang¹

¹Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences, China

3-EP-SQ-S27

Inductance extraction and simulation of small SQUID arrays and SQIFs

Colin Pegrum¹, Emma Mitchell², Karl Muller², Chris Lewis², Shane Keenan², Wendy Purches², Jeina Lazar², Philip Fairman², Alex Grancea², Cathy Foley²

¹Department of Physics, University of Strathclyde, United Kingdom

²CSIRO Manufacturing, Australia

3-EP-SQ-S28

Progress towards innovative and energy efficient logic circuits

Sergio Pagano¹, Gaetano Salina², Anna Napoli³, Carmine Attanasio¹, Carlo Barone¹, Fabrizio Bobba¹, Giovanni Carapella¹, Antonio Leo¹, Angela Nigro¹, Roberto Cristiano⁴, Mikkel Ejrnaes⁴, Mikhail Lisitskiy⁴, Nadia Martucciello⁵, Giovanni Piero Pepe⁶, Loredana Parlato⁶, Matteo Cirillo⁷, Massimiliano Lucci⁷, Vittorio Merlo⁷, Antonino Messina³, Benedetto Militello³

¹Physics Department, University of Salerno and INFN gc, Italy

²Istituto Nazionale di Fisica Nucleare, Sezione di Roma Tor Vergata, Italy

³Dipartimento Fisica e Chimica, Università di Palermo and INFN sez. Catania, Italy

⁴CNR Ist. SPIN and INFN gc. Napoli, Italy

⁵CNR Ist. SPIN and INFN gc. Salerno, Italy

⁶Physics Department, University of Naples "Federico II" and INFN sez. Napoli, Italy

⁷Physics Department, University of Roma "Tor Vergata" and INFN sez. Roma Tor Vergata, Italy

3-EP-SQ-S29

Performance Optimization of HTS rf-SQUID at Different Temperatures

Zhengshan Guo¹, Kehuan Linghu¹, Xinwei Cai¹, Zizhao Gan¹

¹School of Physics, Peking University, China

3-LP-BM - Bulk Magnets and Specialised Magnetic Field Applications

Chairs: Mark Ainslie, University of Cambridge and Antonio Morandi, University of Bologna

3-LP-BM-I01

Waveform Controlled Pulsed Field Magnetisation in MgB₂

Dominic Moseley¹, Guillaume Matthews², Sajjad Amirkhanlou², Anthony Dennis¹, Susannah Speller², John Durrell¹, Yee Kin Tsui¹, Mark Ainslie¹

¹University of Cambridge, United Kingdom

²University of Oxford, United Kingdom

3-LP-BM-I02**Investigation of flux jumps during Pulsed Field Magnetization in MgB₂ bulks**

Kazuya Yokoyama¹, Tetsuo Oka², Kévin Berger³, Rémi Dorget², Michael Koblishka², Mihai Grigorescu⁴, Mihail Burdusel⁴, Dan Batalu³, Gheorghe Aldica⁴, Petre Badica⁴, Masato Murakami²

¹Ashikaga University, Japan

²Shibaura Institute of Technology, Japan

³GREEN - Université de Lorraine, France

⁴National Institute of Materials Physics, Romania

⁵University Politehnica of Bucharest, Romania

3-LP-BM-I03**A Hybrid Trapped Field Magnet Lens (HTFML): proof of concept**

Sora Namba¹, Hiroyuki Fujishiro¹, Mark Ainslie², Tomoyuki Naito¹, Difan Zhou¹, Yosuke Yanagi³

¹Iwate University, Japan

²University of Cambridge, United Kingdom

³IMRA Material R&D Co., Ltd., Japan

3-LP-BM-S04**Maximization of Trapped field in HTS ring magnets**

Muhammad Ali¹, Jinxing Zheng², Min Zhang¹, Weijia Yuan¹, Tian Lan¹

¹University of Strathclyde, United Kingdom

²Institute of Plasma Physics, Chinese Academy of Science, China

3-LP-BM-S05**Design challenges in large split pair magnets for neutron scattering**

Roman Viznichenko¹, Daniel Strange¹, Wenbin Ma¹, Andrew Twin¹, Joe Brown¹

¹Oxford Instruments NanoScience, United Kingdom

3-LP-BM-S06**Test of HTS Demonstrator Coils in the SULTAN Facility**

Xabier Sarasola¹, Pierluigi Bruzzone¹, Kamil Sedlak¹, Boris Stepanov¹, Jeroen van Nugteren², Luca Bottura², Gijs de Rijk², Glyn Kirby², Lucio Rossi²

¹École Polytechnique Fédérale de Lausanne (EPFL), Swiss Plasma Center (SPC), Switzerland

²CERN, Switzerland

3-LP-BM-S07**Test results of HTS split magnet for high-gradient magnetic separator**

Dmitry Diev¹, Vladimir Lepehin¹, Marina Makarenko¹, Andrey Naumov¹, Alexei Polyakov¹, Mihail Surin¹, Daria Shutova¹, Vladimir Scherbakov¹

¹NRC Kurchatov Institute, Russia

3-LP-BM-S08**New Structure of Superconducting DC Induction Heater without Skin Effect**

Xufeng Yan¹, Shaotao Dai¹, Jing Zhang¹, Ying Xu¹

¹Beijing Jiaotong University, China

3-LP-BM-S09

Test of a Stationary Flux Pump for an HTS Coil in Persistent Current Mode

Seyeon Lee¹, Woo-Seok Kim¹, Ji-Kwang Lee², Kyeongdal Choe¹

¹Korea Polytechnic University, South Korea

²Woosuk University, South Korea

3-LP-HC - HTS Cables

Chairs: Yifeng Yang, University of Southampton and Andrea Zappatore, Politecnico di Torino

3-LP-HC-I01

Evaluation of superconducting joints between different kind of wires

Hiroyuki Takewa¹

¹Tokai University, Japan

3-LP-HC-I02

AC Losses Analysis in stack of 2G HTS tapes in a coil

Vasily Zubko¹, Vitaly Vysotsky¹, Sergey Fetisov¹, Sergey Zanev¹, Igor Rodin², Elena Zapretilina²

¹Russian Scientific R&D Cable Institute, Russia

²D.V. Efremov Institute of Electrophysical Apparatus, Russia

3-LP-HC-I03

Novel HTS coil protection method using secondary windings as a quench heater

Yuta Onodera¹, Toshiyuki Mito¹, Kazuya Takahata¹

¹National Institute for Fusion Science, Japan

3-LP-HC-S04

Operation Characteristics of a Smart Insulation Coil with a Defected REBCO wire

Hyung-Wook Kim¹, Young-Sik Jo¹, Seog-Whan Kim¹

¹Korea Electrotechnology Research Institute, South Korea

3-LP-HC-S05

Current bypassing characteristics of NI HTS coils by metallic protection ring

Seokbeom Kim¹, Takahiro Tatsuta¹, Daisuke Nishikawa¹, Hiroshi Ueda¹

¹Okayama University, Japan

3-LP-HC-S06

Magnetic Shielding of Long Paraboloid Structures in Inhomogeneous Magnetic Field

Jozef Kvitkovic¹, Kalin Burnside¹, Min Zhang², Zhenyu Zhang¹, Sastry Pamidi¹

¹Center for Advanced Power Systems, Florida State University, United States of America

²Department of Electronic and Electrical Engineering, University of Strathclyde, United Kingdom

3-LP-HC-S07**Study on conditions to reuse quenched HTS coil**

Hifumi Toriyama¹, Akihiro Nomoto¹, Takumalchikawa¹, Tomoaki Takao¹, Kazuya Nakamura¹, Osami Tsukamoto¹, MITSUHO Furuse²

¹Sophia University, Japan

²National Institute of Advanced Industrial and Technology Lab., Japan

3-LP-HC-S08**Magnetization Loss Analysis of HTS Solenoid Coils wound with Striated CORC**

Jisung Goo¹, Seyeon Lee¹, Woo-Seok Kim¹, Ji-Kwang Lee², Kyeongdal Choi¹

¹Korea Polytechnic University, South Korea

²Woosuk University, South Korea

3-LP-HC-S09**Quench Protection for Superconducting Insertion Magnets**

Michael Green¹

¹Lawrence Berkeley Laboratory, United States of America

3-LP-HC-S10**Electromagnetic Optimization and AC Loss Analysis of a Hybrid Solenoidal Magnet**

Yue Wu¹, Jin Fang¹

¹Beijing Jiaotong University, China

3-LP-HC-S11**HTS Coils Wound by Bundle Conductor Composed of No-insulated REBCO Tapes**

Tomonori Watanabe¹, Shigeo Nagaya¹, Satoshi Fukui², Atsushi Ishiyama³

¹Chubu Electric Power Co., Inc., Japan

²Niigata University, Japan

³Waseda University, Japan

3-LP-HC-S12**Quench Behaviour of Multi-Layer High Temperature Superconducting CORC Cables**

Zixuan Zhu¹, Yawei Wang², Min Zhang², Weijia Yuan²

¹University of Bath, United Kingdom

²University of Strathclyde, United Kingdom

3-LP-HC-S13**Transverse load FE modeling on multilayered CORC® cables and wires**

Anvar Valiyaparambil Abdulsalam¹, Shahriar Hossain², Timothy J Haugan³, Jeremy D Weiss⁴, Danko van der Laan⁴, Arend Nijhuis⁵

¹University of Twente, Faculty of Science & Technology, The Netherlands, University of Wollongong, Institute for Superconducting and Electronic Materials, Australia

²University of Wollongong, Institute for Superconducting and Electronic Materials, University of Queensland, School of Mechanical and Mining Engineering, Australia

³US Air Force Research Laboratory, United States of America

⁴Advanced Conductor Technologies and University of Colorado, United States of America

⁵University of Twente, Faculty of Science & Technology, The Netherlands

3-LP-HC-S14

Analysis and optimisation of the MgB₂ splices in the SC-Link for the HL-LHC
Iole Falorio¹, Yifeng Yang², Christian Barth¹, Jerome Fleiter¹, Amalia Ballarino¹

¹CERN, Switzerland

²University of Southampton, United Kingdom

3-LP-HC-S15

Characterising MgB₂ Multi-filament Cables for Future Electric Aircraft

Tian Lan¹, Min Zhang¹, Weijia Yuan¹, Muhammad Ali¹

¹University of Strathclyde, United Kingdom

3-LP-HC-S16

Twist pitch effect on the critical current density distribution of CORC cables

Muhammad Umar Fareed¹, Bright Robert¹, Harold Ruiz¹

¹University of Leicester, United Kingdom

3-LP-HC-S17

Flux Pinning Docking Interfaces in satellites using trapped field magnets

Michael Koblishka¹, Pavan Kumar Naik¹, Anjela Koblishka-Veneva¹, Masato Murakami¹,
Quentin Nouailhetas², Kévin Berger², Bruno Douine², Denis Gokhfeld³

¹Shibaura Institute of Technology, Japan

²GREEN University of Lorraine, France

³Kirensky Institute of Physics, Russia

3-LP-HC-S18

AC loss of Double Pancake Coils wound with MgB₂ Rutherford Cable

Toshihiro Komagome¹, Kenichi Tsukada¹, Masayuki Hoshino¹, Takataro Hamajima¹,
Yasuhiro Makida², Takakazu Shintomi², Tomoaki Takao³, Tsuyoshi Yagai³, Makoto Tsuda⁴,
Daisuke Miyagi⁴, Naoki Hirano⁵, Masaru Tomita⁶, Taiki Onji⁶, Atsushi Shigemori⁷, Kentaro
Nakajima⁷

¹Mayekawa MFG. Co., Ltd., Japan

²High Energy Accelerator Research Organization, Japan

³Sophia University, Japan

⁴Tohoku University, Japan

⁵Chubu Electric Power Co., Inc., Japan

⁶Railway Technical Research Institute, Japan

⁷IWATANI Corporation, Japan

3-LP-HM - HTS Magnets

Chairs: Amalia Ballarino, CERN and Andrea Zappatore, Politecnico di Torino

3-LP-HM-I01

Bi-2212 coil testing enabled by high field, large bore research magnets

Steven Ball¹, Andrew Twin¹, David Warren¹, Ziad Melhem¹, Richard Wotherspoon¹,
Thomas Herrmannsdörfer²

¹Oxford Instruments, United Kingdom

²Dresden High Magnetic Field Laboratory, Germany

3-LP-HM-I02**Experimental Results of Various Metal-Clad REBCO Tapes for No-Insulation Coils**

Jae-Hun Lee¹, Myunghwan Ku¹, Yungil Kim¹, Seonghun Oh¹, Byoungjean Mean¹, Jaemin Kim¹, Seung Yong Hahn², Young-Soon Kim¹, Hunju Lee¹, SeungHyun Moon¹

¹SuNAM Co., Ltd., South Korea

²Seoul National University, South Korea

3-LP-HM-S03**A High-Field and High-Homogeneity Superconducting Magnet Design for Cephalic MRI**

Yavuz Ozturk¹, Boyang Shen¹, Jun Ma¹, Jamie Gawith¹, Tim Coombs¹

¹University of Cambridge, United Kingdom

3-LP-HM-S04**The effect of stress on the charging characteristics in a no-insulation magnet**

Donghui Liu¹, Huadong Yong¹, Youhe Zhou¹

¹Lanzhou University, China

3-LP-HM-S05**Operating Characteristics of MIT ReBCO coil during an excitation**

Mingzhi Guan¹

¹Institute of Modern Physics, Chinese Academy of Sciences, China

3-LP-HM-S06**Stand-alone test and strain analysis of a 9-T REBCO insert coil**

Yufan Yan¹, Timing Qu¹, Yunfei Tan², Mingzhi Guan³, Beimin Wu³, Canjie Xin³

¹Department of Mechanical Engineering, Tsinghua University, China

²Huazhong University of Science and Technology, China

³Institute of Modern Physics, Chinese Academy of Sciences, China

3-LP-HM-S07**Conduction Cooled HTS Magnet Generating 6 T High Uniformity Magnetic Field**

Ion Dobrin¹, Dan Enache¹, Alexandru Mihail Morega², Andrei Dobrin¹, Iuliu Popovici¹, Mihaela Morega², George Dumitru¹, Radu Pintea¹

¹National Institute for Research and Development in Electrical Engineering ICPE-CA, Applied Superconductivity Laboratory, Romania

²University Politehnica of Bucharest, Faculty of Electrical Engineering, Romania

3-LP-HM-S08**Thermal stability of conduction-cooled no-insulated HTS coils up to 400 A**

Álvaro Cubero¹, Ana Belén Núñez-Chico¹, Rafael Navarro¹, Luis Alberto Angurel¹, Elena Martínez¹

¹ICMA CSIC, Universidad de Zaragoza, Spain

3-LP-HM-S09**Design and fabrication of a 5.8T conduction-cooled superconducting magnet**

Qiangwang Hao¹

¹Institute of Plasma Physics Chinese Academy of Sciences, China

3-LP-HM-S10

Investigation on the Ultra-high field Flux Pumped superconducting magnets

Chao Li¹

¹University of Cambridge, United Kingdom

3-LP-HM-S11

Analysis of Unbalance Force and Support Structure for 30T Superconducting Magnet

Lei Wang¹, Qiuliang Wang¹, Jianhua Liu¹, Yaohui Wang¹, Lang Qin¹

¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

3-LP-HM-S12

Development of a 20T 100mm Cold Bore Superconducting Magnet System

Wenbin Ma¹

¹Oxford Instruments NanoScience, United Kingdom

3-LP-HM-S13

A portable magnetization setup for compact bulk superconductor magnet systems

Yeekin Tsui¹, Anthony R. Dennis¹, Dominic Moseley¹, Vito Ciantanni¹, Yunhua Shi¹, John H. Durrell¹, Mark Ainslie¹

¹University of Cambridge, United Kingdom

3-LP-HM-S14

Flux-pumped ultra-high current parallel-winding no-insulation HTS pancake coils

Jianzhao Geng¹, Rod Badcock¹, Chris Bumby¹

¹Robinson Institute, Victoria University of Wellington, Australia

3-LP-LE - Levitation SMES and Mechanical

Chairs: Frank Werfel, Adelwitz Technologiezentrum GmbH (ATZ) and Yong Zhou, Wuhan Institute of Marine Electric Propulsion

3-LP-LE-I01

Improved hysteretic loss measurement on a rotating superconducting bearing

Tilo Espenhahn¹, Maria Sparing¹, Mahmud Hossain², Günter Fuchs¹, Anwar Abdkader², Chokri Cherif², Kornelius Nielsch¹, Ruben Hühne¹

¹IFW Dresden, Germany

²Institute of Textile Machinery and High Performance Material Technology, Technische Universität Dresden, Germany

3-LP-LE-I02

Experimental investigation of a SMES-FCL multifunctional coils in DC-systems

Mariam Elshiekh¹, Abdelrahman Elwakeel¹, Sriharsha Venuturumilli¹, Xiaozhe Pei¹, Min Zhang¹, Weijia Yuan¹

¹University of Bath, United Kingdom

3-LP-LE-I03**Design results of a 500 kJ / 200 kW conduction cooled MgB2 SMES magnet**

Antonio Morandi¹, Umberto Melaccio², Pier Luigi Ribani², Simonetta Turtù³, Luigi Affinito⁴, Matteo Tropeano⁵, Capelluto Alessio⁶

¹University of Bologna, DEI – Department of Electrical, Electronic and Information Engineering, ENEA Frascati Research Center, Department of Fusion, ASG Superconductors, Italy

²University of Bologna, DEI – Department of Electrical, Electronic and Information Engineering, Italy

³ENEA Frascati Research Center, Italy

⁴ENEA Frascati Research Center, Department of Fusion, Italy

⁵ASG Superconductors - Columbus Division, Italy

⁶ASG Superconductors, Italy

3-LP-LE-S04**Levitation force of jointless superconducting loops in a wide temperature range.**

Maxim Osipov¹, Alexandr Starikovskii¹, Sergej Pokrovskii¹, Dmitry Abin¹, Irina Anischenko¹, Igor Rudnev¹

¹National Research Nuclear University MEPhI, Russia

3-LP-LE-S05**Rotating superconducting magnetic bearing as twist element in ring spinning**

Maria Sparing¹, Tilo Espenhahn¹, Mahmud Hossain², Anwar Abdkader², Chokri Cherif², Kornelius Nielsch¹, Ruben Hühne¹

¹IFW Dresden, Germany

²Institute of Textile Machinery and High Performance Material Technology, Technical University of Dresden, Germany

3-LP-LE-S06**Effects of an added ring-shaped magnet on superconducting magnetic levitation**

Muneo Futamura¹, Shunsuke Homma¹

¹Akita Prefectural University, Japan

3-LP-LE-S07**Arrangement Optimization of Magnetic Levitation Systems with HTS Coil and Bulks**

Yasuhiro Kaneko¹, Toshiki Kitamura¹, Tomoaki Takao¹

¹Sophia University, Japan

3-LP-LE-S08**A self-adaptive oscillator applying to superconductive magnetic levitation**

Koki Ochiai¹, Toshihiko Sugiura¹

¹Keio University, Japan

3-LP-LE-S09**Using of HTS tape coils for the design of a magnetic bearing**

Ekaterina Kurbatova¹, Pavel Kurbatov¹, Egor Kuschenko¹, Yurii Kulaev¹

¹National Research University, Moscow Power Engineering Institute, Russia

3-LP-LE-S10**Optimal Tuning of Electromagnetic Shunt Damper in Superconducting Levitation**

Keisuke Uchino¹, Toshihiko Sugiura¹

¹Keio University, Japan

3-LP-LE-S11

The FEM simulation of thrust magnetic bearing

Irina Anischenko¹, Sergei Pokrovskii¹, Igor Rudnev¹

¹National Research Nuclear University MEPhI, Russia

3-LP-LE-S12

Design of the Semi-Active Absorber for HTS Maglev Vehicles Based on PD Control

Haitao Li¹, Zigang Deng¹, Zhihao Ke¹, Jinbo Yu¹, Jianghua Zhang¹, Jun Zheng¹

¹Southwest Jiaotong University, China

3-LP-LE-S13

Quench analysis of an MgB₂ SMES magnet with cryogen free cooling

Antonio Morandi¹, Umberto Melaccio¹, Pier Luigi Ribani¹, Simonetta Turtù², Luigi Affinito²

¹University of Bologna, Italy

²ENEA Frascati Research Center, Department of Fusion, Italy

3-LP-LE-S14

Space Propulsion Measurement based on HTS Magnetic Bearing

Wenjiang Yang¹, Yu Ji¹, Long Yu², Zhaoxin Liu¹, Mao Ye³

¹Beihang University, China

²Information Technology Center, Aviation Industry Corporation of China, China

³Navigation and control technology institute, China North Industries Group Corporation, China

3-LP-LE-S15

Hybrid FCL-SMES device

Shuki Wolfus¹, Yasha Nikulshin¹, Alex Friedman¹, Eliezer Perel¹, Yosef Yeshurun¹

¹Bar-Ilan University, Israel

3-LP-LE-S16

A Novel Superconducting Instant Energy Storage

Ying Xin¹, Qian Dong¹, Bo Tian², Yuyan Wen¹, Quan Li³

¹Tianjin University, China

²Futong Group (Tianjin) Superconductor Technologies and Applications Co.,Ltd., China

³The University of Edinburgh, United Kingdom

3-LP-LE-S17

The research of critical current of SMES coil constructed of corc wire

Zhidun Zeng¹, Zixuan Zhu², Min Zhang¹, Weijia Yuan¹

¹University of Strathclyde, United Kingdom

²University of Bath, United Kingdom

3-LP-LE-S18

12 T REBCO magnet used as compact 1 MJ pulse-power SMES

Julien Vialle¹, Pascal Tixador², Jérémie Ciceron², Arnaud Badel³, Forest Frédérick⁴, Raphael Pasquet⁴

¹Université Grenoble Alpes, CNRS, France

²Université Grenoble Alpes, France

³Tohoku University, Japan

⁴Sigmaphi, France

3-LP-LE-S19**Evaluation on Applicability of No-insulation REBCO Coil to SMES**

Tetsuro Kinpara¹, Masato Ohmure¹, Atsushi Ishiyama¹, Tomonori Watanabe², Shigeo Nagaya²

¹Waseda University, Japan

²Chubu Electric Power Co.,Inc, Japan

3-LP-NM - Numerical Modelling: Large Scale Devices

Chairs: Min Zhang, University of Strathclyde and Benoît Vanderheyden, Liège University

3-LP-NM-I01**Numerical Analysis and Optimization of Large Tuned-Insulation HTS Magnets**

Jeroen van Nugteren¹, Robert Slade², Lucio Rossi¹, Rod Bateman², Greg Brittles², Glyn Kirby¹, Marcel Kruip², Bas van Nugteren², Martin Wilson²

¹CERN, Switzerland

²Tokamak Energy, United Kingdom

3-LP-NM-I02**3D modeling and measurements of a multi-tape pancake coil with coupling currents**

Milan Kapolka¹, Jan Kovac¹, Enric Pardo¹

¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia

3-LP-NM-I03**Quench protection of the BabyIAXO magnet system**

Nikolay Bykovskiy¹, Alexey Dudarev¹, Helder Filipe Pais Da Silva¹, Herman H J ten Kate¹

¹CERN, Switzerland

3-LP-NM-I04**Modeling and measurement of the voltage signal in HTS flux pumps**

Asef Ghabeli¹, Enric Pardo¹, Mykola Soloviyov¹, Jan Souc¹

¹Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia

3-LP-NM-S05**Towards real-time simulation of large-scale HTS systems using T-A formulation**

Edgar Berrospe-Juarez¹, Víctor Zermelo², Frederic Trillaud¹, Francesco Grilli³

¹National Autonomous University of Mexico, Mexico

²NKT GmbH & Co. KG, Germany

³Karlsruhe Institute of Technology (KIT), Germany

3-LP-NM-S06**A Hierarchical Multiscale Delamination Model of REBCO Coated Conductor Coils**

Peifeng Gao¹, Hao Duan², Xingzhe Wang¹, You-he Zhou¹

¹College of Civil Engineering and Mechanics, Lanzhou University, China

²Lanzhou University, China

3-LP-NM-S07

Improving multi-scale model with homogenization model

Lei Wang¹, Yuntao Song², Yuanxi Wan¹, Jinxing Zheng²

¹University of Science and Technology of China, China

²Institute of Plasma Physics, Chinese Academy of Sciences, China

3-LP-NM-S08

Quench and mechanical modelling of no-insulation HTS magnet with multiple coils

Yawei Wang¹, Hongyu Bai², Min Zhang¹, Weijia Yuan¹

¹University of Strathclyde, United Kingdom

²National High Magnetic Field Laboratory, Florida State University, United States of America

3-LP-NM-S09

A new approach for 3D modelling of HTS stacks magnetized by pulsed field

Shengnan Zou¹, Wei Chen¹, Anup Patel², Algirdas Baskys², Francesco Grilli³

¹Quanzhou Institute of Equipment Manufacturing Haixi Institute, Chinese Academy of Sciences, Germany

²University of Cambridge, United Kingdom

³Karlsruhe Institute of Technology (KIT), Germany

3-LP-NM-S10

3D Modeling of Pulsed Field Magnetization of arrays of HTS bulks

Jakub Kapek¹, Kévin Berger¹, Frederic Trillaud², Hocine Menana¹, Melika Hinaje¹, Jean Lévêque¹

¹GREEN - Université de Lorraine, France

²Instituto de Ingenieria, Universidad Nacional Autónoma de México, México

3-LP-NM-S11

A 2D/3D model to match local J_c map and macroscopic scale behavior of REBCO tape

Blandine Rozier¹, Arnaud Badel², Brahim Ramdane¹, Gérard Meunier¹, Takumi Suzuki³, Takano Kiss³

¹G2ELab, France

²Tohoku University - IMR, France

³Kyushu University, Japan

3-LP-NM-S12

Effect of ReBCO internal resistance on quench propagation velocity at 77 K in SF

Maxime Matras¹, Gianluca De Marzi¹, Jerome Fleiter¹, Amalia Ballarino¹

¹CERN, Switzerland

3-LP-NM-S13

AC Losses and Induced Fields in HTS Coil Wound Using Two-Ply Coated Conductors

Hiroki Yokoyama¹, Kazuhiro Kajikawa¹, Satoshi Awaji², Koki Takahashi², Tatsunori Okada²

¹Kyushu University, Japan

²Tohoku University, Japan

3-LP-NM-S14**Experimental and Numerical Transport AC Loss in Bifilar Stack with Large Current**Wenjuan Song¹, Xiaoze Pei¹, Zhenan Jiang², Mike Staines², Jin Fang³¹Department of Electronic and Electrical Engineering, University of Bath, United Kingdom²Robinson Research Institute, Victoria University of Wellington, New Zealand³School of Electrical Engineering, Beijing Jiaotong University, China**3-LP-NM-S15****Simulation of AC losses in racetrack coils wound with striates HTS tapes**Marco Bianchetti¹, Bart de Bruyn², Dave Krop¹, Elena Lomonova¹¹Eindhoven University of Technology, The Netherlands²Prodrive Technologies, The Netherlands**3-LP-NM-S16****Modelling of AC Loss in HTS Coils for Superconducting Wireless Power Transfer**Hongyi Chen¹, Quan Li¹¹University of Edinburgh, United Kingdom**3-LP-NM-S17****A novel method for quench characteristic analysis of YBCO double pancake coil**Ming Li¹, Yuntao Song¹, Jinxing Zheng¹¹Institute of Plasma Physics Chinese Academy of Sciences, China**3-LP-NM-S18****Optimisation of Rotating Flux Pumping Devices for Superconducting Magnets**Markus Mueller¹, Han Gao¹, Joseph Burchell¹, Qiwen Wu¹¹University of Edinburgh, United Kingdom**3-MP-CC3 - Coated Conductors 3**

Chairs: Shintetsu Kanazawa, Muroran Institute of Technology and Shuhei Funaki, Shimane University

3-MP-CC3-I01**Towards Transient Liquid Assisted Growth (TLAG) of Thick YBCO Coated-Conductors**Adrià Pacheco Aceña¹, Albert Queraltó¹, Max Sieger¹, Aitor Gallego², Flavio Pino¹, Susagna Ricart³, Teresa Puig¹, Xavier Obradors¹¹ICMAB-CSIC, Spain²Universitat Autònoma de Barcelona (UAB), Spain³ICMAB-CSIC, Universitat Autònoma de Barcelona (UAB), Spain**3-MP-CC3-I02****Fabrication technology of high J_c coated conductor for high speed process**Yutaka Yoshida¹, Yusuke Ichino¹, Yuji Tsuchiya¹, Ataru Ichinose², Kaname Matsumoto³, Satoshi Awaji⁴¹Nagoya university, Japan²Central Research Institute of Electric Power Industry, Japan³Kyushu Institute of Technology, Japan⁴Tohoku University, Japan

3-MP-CC3-S03

Mechanical properties and critical current on cryogenic temperature in REBCO tap

Mingzhi Guan¹

¹Institute of Modern Physics, Chinese Academy of Sciences, China

3-MP-CC3-S04

Nonmagnetic Ni-9at%W RABITS for Coated Conductor Technology

Mark Rikel¹, Oliver Brunkahl¹, Jan Kunert¹, Michael Bäcker¹

¹Deutsche Nanoschicht GmbH, Germany

3-MP-CC3-S05

Study on the electrical performance improvement of the REBCO coated conductor

Ho Ik Du¹, Sung Chae Yang¹, Hyun Gi Jeong¹

¹Chonbuk National University, South Korea

3-MP-CC3-S06

Reel-to-reel laser striated (RE)BCO strands for long length Roebel cables

Rainer Nast¹, Andrea Kling¹, Bernd Ringsdorf¹, Alexandra Jung¹, Francesco Grilli¹

¹Karlsruhe Institute of Technology (KIT), Institute for Technical Physics, Germany

3-MP-CC3-S07

Thermal cycling of overlap joints of CC tapes

Michal Skarba¹, Marcela Pekar íková², Eva Cuninková², Jozef Mišík², Martin Necpal²,
Lubomir Frolek³, Fedor Gömöry³

¹Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Slovak Academy of Sciences, Institute of Electrical Engineering, Slovakia

²Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in Trnava, Slovakia

³Slovak Academy of Sciences, Institute of Electrical Engineering, Slovakia

3-MP-CC3-S08

Current Distribution Analysis for REBCO/Conductive Oxides/Cu Coated Conductor

Seiya Inoue¹, Tsuyoshi Hamada¹, Shigeru Horii¹, Toshiya Doi¹

¹Kyoto University, Japan

3-MP-CC3-S09

(Sr,Lu)TiO₃ as a Conductive Buffer layer for Low-cost Coated Conductors

Tsuyoshi Hamada¹, Keisuke Ota¹, Seiya Inoue¹, Shigeru Horii¹, Ataru Ichinose²,
Toshiya Doi¹

¹Kyoto University, Japan

²Central Research Institute of Electric Power Industry, Japan

3-MP-CC3-S10

Development of a Normal Zone Propagation Set-up for YBCO Superconducting Tape

Huang Chen¹, Huajun Liu², Fang Liu², Chao Zhou³, Chao Dai²

¹Institute of Plasma Physics Chinese Academy of Sciences, University of Science and Technology of China, China

²Institute of Plasma Physics Chinese Academy of Sciences, China

³University of Science and Technology of China, China

3-MP-CC3-S11**Low temperature bonding of non-stabilized coated conductor tapes**

Edita Mikulášová¹, Michaela Sojková¹, Marcela Pekarčíková², Michal Vojenčíak¹, Fedor Gömöry¹

¹IEE SAS, Slovakia

²MTF STU, Slovakia

3-MP-CC3-S13**Critical current anisotropy in YBCO thin films grown on IBAD-MgO based templates**

Mukarram Zaman Khan¹, Elmeri Rivasto¹, Yue Zhao², Chunsheng Chen³, Jiamin Zhu³, Jussi Tikkanen⁴, Heikki Palonen⁴, Hannu Huhtinen⁵, Petriina Paturi⁴

¹Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, University of Turku Graduate School (UTUGS), University of Turku, Finland

²Department of Electrical Engineering, Shanghai Jiao Tong University, China

³Shanghai Superconductor Technology Co. Ltd., China

⁴Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, Finland

⁵University of Turku, Finland

3-MP-FM - Fe-based Materials

Chairs: Tsuyoshi Tamegai, The University of Tokyo and Ruben Hühne, IFW Dresden

3-MP-FM-I01**Substrate effect on the growth of SmFeAs(O F) films by CVD and arsenic diffusion**

Uriel Mérida-Toledo¹, Nancy Castillo¹, Agustín Conde-Gallardo¹

¹Physics Department, CINVESTAV-IPN, Mexico

3-MP-FM-I02**Synthesis of Ba122 thick films by vapor diffusion method**

Toshiki Uemura¹, Akiyasu Yamamoto¹

¹Tokyo University of Agriculture and Technology, Japan

3-MP-FM-I04**Effect of annealing on structure and superconducting properties in Fe(Se,Te)**

Andrea Masi¹, Carlo Alvani², Achille Angrisani Armenio², Andrea Augieri², Giuseppe Celentano², Gianluca De Marzi², Chiarasole Fiamozzi Zignani², Fabio Fabbri², Aurelio La Barbera², Franco Padella², Francesco Rizzo², Enrico Silva¹, Angelo Vannozzi²

¹Università degli Studi Roma Tre, Italy

²ENEA, Italy

3-MP-FM-I05**Vortex phase transition and pinning in EuRbFe₄As₄ superconductor.**

Vladimir Vlasenko¹, Pervakov Kirill¹, Sergei Gavrilkin¹

¹P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia

3-MP-FM-S06

Tc homogeneity and vortex dynamics in K-doped FeAs122 superconducting tapes

Chiheng Dong¹, Chao Yao¹, He Huang¹, Yanwei Ma¹

¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

3-MP-FM-S07

Superconducting Joint between (Ba,K)Fe2As2 Tapes fabricated by a simple method

Shota Imai¹, Shigeyuki Ishida², Yoshinori Tsuchiya², Akira Iyo², Hiroshi Eisaki², Taichiro Nishio¹, Yoshiyuki Yoshida²

¹Tokyo University of Science, Japan

²National Institute of Advanced Industrial Science and Technology (AIST), Japan

3-MP-FM-S08

High pressure treatment of Fe-122 and Fe-1144 wire cores – phase stability

Andrzej Morawski¹, Tomasz Cetner¹, Shiv J. Singh², Daniel Gajda³, Andrzej Zaleski³, Ryszard Diduszko⁴, Matt Rindfleisch⁵, Grzegorz Gajda⁶, Krzysztof Filar⁶, Piotr Przysławski⁷

¹Institute of High Pressure Physics PAS, Poland

²Clarendon Lab, University of Oxford, United Kingdom

³Institute of Low Temperatures and Structural Research PAS, Poland

⁴Institute of Tele- and Radiotechnics PAS, Poland

⁵Hyper Tech Research Inc., United States of America

⁶Frako-Term, Poland

⁷Institute of Physics PAS, Poland

3-MP-FM-S9

Fabrication of Cu/Ag-Sheathed Ba0.6K0.4Fe2As2 Tapes and Wires via HIP method

Shifa Liu¹, Chao Yao¹, Chiheng Dong¹, Zhe Cheng¹, Yanwei Ma¹

¹Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, Chinese Academy of Sciences, China

3-MP-FM-S10

Pulsed laser deposition of Ba(Fe0.92Co0.08)2As2 nanocomposite films

Sven Meyer¹, Marco Langer², Jens Hänisch¹, Bernhard Holzapfel¹

¹KIT - ITEP, Germany

3-MP-FM-S11

Enhanced Jc in BaZrO3 nanoparticles doped BaFe2(As0.66P0.33)2 films

Takumu Harada¹, Go Tsuchiya¹, Masashi Miura¹, Keiichi Tanabe², Masaru Kiuchi³, Teruo Matsushita³

¹Seikei University, Japan

²Superconductivity Sensing Technology Research Association, Japan

³Kyushu Institute of Technology, Japan

3-MP-FM-S12

Ba(Fe1-xCox)2As2 thin films on vicinal CaF2

Marco Langer¹, Sven Meyer¹, Jens Hänisch¹, Bernhard Holzapfel¹

¹Karlsruhe Institute of Technology (KIT), Germany

3-MP-FM-S13**Compositional Influences on Intergrain Connectivity in K-Doped BaFe₂As₂ Bulks**

Chongin Pak¹, Yi-Feng Su¹, Yesusa Collantes¹, Chiara Tarantini¹, Eric Hellstrom², David Larbalestier², Fumitake Kametani²

¹Applied Superconductivity Center, National High Magnetic Field Laboratory, Florida State University, United States of America

²Applied Superconductivity Center, National High Magnetic Field Laboratory, Department of Mechanical Engineering, Florida State University, United States of America

3-MP-FM-S14**Synthesis of polycrystalline superconducting Ba_{0.5}K_{0.5}Fe₂As₂ and FeSe_{0.5}Te_{0.5}**

Alessia Provino¹, Cristina Bernini¹, Giulia Sylva², Valeria Braccini¹, Marina Putti², Andrea Malagoli¹, Pietro Manfrinetti³, Amalia Ballarino⁴, Simon C. Hopkins⁴

¹Institute SPIN-CNR, Italy

²Department of Physics, University of Genova, Italy

³Department of Chemistry, University of Genova, Italy

⁴CERN, Switzerland

3-MP-FM-S15**Synthesis of the hole-doped superconductor Ba_{1-x}K_xFe₂As₂ by mechanical alloying**

Kirill Pervakov¹, Vladimir Vlasenko¹, Eugeny Maltsev¹

¹P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia

3-MP-FM-S16**Superconducting state in (La,N_a,K)Fe₂As₂ and (La,N_a)AFe₄As₄ (A=Rb,Cs)**

Kenji Kawashima¹, Shigeyuki Ishida², Hiroshi Fujihisa², Yoshito Gotoh², Hiraku Ogino², Hiroshi Eisaki², Yoshiyuki Yoshida², Akira Iyo²

¹IMRA Material R&D Co., Ltd., AIST, Japan

²AIST, Japan

3-MP-FM-S17**Study of Fe(Se,Te) film growth on different substrates**

Antonella Mancini¹, Andrea Masi², Achille Angrisani Armenio¹, Alessandro Rufoloni¹, Andrea Augieri¹, Angelo Vannozzi¹, Valentina Pinto¹, Laura Piperno², Francesco Rizzo¹, Fabio Fabbri¹, Giuseppe Celentano¹, Aurelio La Barbera¹, Franco Padella¹

¹ENEA Frascati Research Centre, Italy

²Roma Tre University, Engineering Department, Italy

3-MP-FM-S18**Uniaxial strain experiments on Tellurium doped Iron selenides**

Aleena Anna Thomas¹, Thomas Doert², Kornelius Nielsch¹, Ruben Hühne³

¹Leibniz Institute for Solid State and Materials Research, Technical University, Dresden, Germany

²Technical University, Dresden, Germany

³Leibniz Institute for Solid State and Materials Research, Dresden, Germany

3-MP-FM-S19

Universal phase diagram of FeSe_{1-x}Te_x via annealing in different atmospheres

David Uhrig¹, Grant Williams², Gabriel Bioletti¹, Shen Chong³

¹Robinson Research Institute, Victoria University of Wellington, School of Chemical and Physical Sciences, Victoria University of Wellington, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand

²School of Chemical and Physical Sciences, Victoria University of Wellington, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand

³Robinson Research Institute, Victoria University of Wellington, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand

3-MP-FM-S20

Boosting Superconducting Properties of Fe(Se, Te) by Fluorine Doping

Feng Jianqing¹, Liu Jixing², Zhang Shengnan¹, Li Chengshan¹, Wang Xiaolin²

¹Northwest Institute for Nonferrous Metal Research, China

²University of Wollongong, China

3-MP-FM-S21

Oriented buffer layers by CSD for epitaxial Fe(Se,Te) film growth

Angelo Vannoizzi¹, Andrea Augieri¹, Giulia Sylva², Valeria Braccini², Alessandro Rufoloni¹, Valentina Pinto¹, Antonella Mancini¹, Andrea Masi³, Achille Angrisani Armenio¹, Laura Piperno³, Francesco Rizzo¹, Giuseppe Celentano¹

¹ENEA Frascati Research Centre, Italy

²CNR-SPIN, Italy

³Roma Tre University, Italy

3-MP-FM-S22

Microwave Impedance Study of Superconducting (Li_{1-x}Fex)OHFeSe Single Crystal

Nickolay (Mykola) Cherpak¹, Alexander Barannik¹, Yun Wu², Xueqiang Zhang², Jia Wang², Xiaoli Dong², Liang Sun³, Yu-Sheng He²

¹O. Usikov IRE NAS of Ukraine, Ukraine

²Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, China

³Songshan Lake Materials Laboratory, China

3-MP-FM-S23

Enhanced critical current density in CaKFe₄As₄ superconducting tapes

Zhe Cheng¹, Chiheng Dong², Shifa Liu¹, He Huang¹, Vitalii Vlasko-Vlasov⁴, Ulrich Welp⁴, Wai-Kwong Kwok³, Yanwei Ma¹

¹Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, Chinese Academy of Sciences, University of Chinese Academy of Science, China

²Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, Chinese Academy of Sciences, China

³Argonne National Laboratory, United States of America

3-MP-FM-S24

Superconductivity dependence on the growth conditions in CaKFe₄As₄

Shiv J. Singh¹, Matthew Bristow¹, Tomasz Cetner², Andrzej Morawski², Simon J. Clarke³, Stephen J. Blundell¹, Amalia I. Coldea¹

¹Clarendon Laboratory, Department of Physics, University of Oxford, United Kingdom

²Institute of High Pressure Physics, Polish Academy of Science, Poland

³Department of Chemistry, University of Oxford, United Kingdom

3-MP-FM-S25**Effect of oxygen contamination on densification of Fe(Se,Te)**

Francesca Varsano¹, Andrea Masi², Carlo Alvani¹, Achille Angrisani Armenio¹, Mariangela Bellusci¹, Giuseppe Celentano¹, Chiarasole Fiamozzi Zignani¹, Fabio Fabbri¹, Aurelio La Barbera¹, Franco Padella¹, Marzia Pentimalli¹, Angelo Vannozi¹

¹ENEA Frascati Research Centre, Italy

²Università degli Studi di Roma Tre, Italy

3-MP-FP5 - Critical Current and Flux Pinning 5

Chairs: Enrico Silva, University Roma Tre and John Feighan, University of Cambridge

3-MP-FP5-I01**Ion beam irradiation experiments on coated REBCO coated conductors**

William Iliffe¹, Yatir Linden², Greg Brittles³, Rod Bateman³, Robert Slade³, Nianhua Peng⁴, Roger Webb⁴, Chris Grovenor⁵, Susannah Speller¹

¹University of Oxford, United Kingdom

²Department of Materials, University of Oxford, United Kingdom

³Tokamak Energy, United Kingdom

⁴Surrey Ion Beam Centre, University of Surrey, United Kingdom

3-MP-FP5-I02**Low temperature properties of Zn-doped YBa₂Cu₃O₆₊ films**

Kai Ackermann¹, Jens Hänisch¹, Bernhard Holzapfel¹

¹Karlsruhe Institute of Technology (KIT), Germany

3-MP-FP5-I03**Asymmetric Critical Currents in REBCO Films under In-plane Fields**

Yuji Tsuchiya¹, Keisuke Suzuki², Akihiro Tsuruta³, Woosuck Shin³, Yusuke Ichino², Yutaka Yoshida²

¹Nagoya University, National Institute of Advanced Industrial Science and Technology, Japan

²Nagoya University, Japan

³National Institute of Advanced Industrial Science and Technology, Japan

3-MP-FP5-S04**Film thickness dependence of in-field J_c in (Y,Gd)BaCuO+BaZrO₃ nanoparticle CCs**

Go Tsuchiya¹, Junya Kawanami¹, Masashi Miura¹, Masaru Kiuchi², Teruo Matsushita²

¹Seikei University, Japan

²Kyushu Institute of Technology, Japan

3-MP-FP5-S05**Pinning and Temperature Dependence of the Critical Current in YBCO Nanoparticles**

Samir Khene¹

¹Radiation Physics Laboratory, Physics Department, Badji Mokhtar University, Algeria

3-MP-FP5-S06

Effect of Frenkel defects on superconducting properties of GdBCO tapes

Raphael Unterrainer¹, David X. Fischer¹, Michael Eisterer¹

¹Atominstiut, TU Wien, Austria

3-MP-FP5-S07

Improvement the Critical Current in the Magnetic Field of REBCO Coated Conductor

Seog-Whan Kim¹, Hyung-Wook Kim¹, Young-Sik Jo¹

¹Korea Electrotechnology Research Institute, South Korea

3-MP-FP5-S08

Critical current anisotropy of industrial coated conductors close to 77 K

Eugen Seiler¹, Fedor Gömöry¹, Rastislav Ries¹, Michal Vojenciak¹

¹Institute of Electrical Engineering SAS, Slovakia

3-MP-FP5-S09

High frequency vortex dynamics in YBa₂Cu₃O_{7-x} with Ba₂YTaO₆-Ba₂YNbO₆ nanodefects

Kostiantyn Torokhtii¹, Andrea Alimenti¹, Francesco Rizzo², Andrea Augieri², Giuseppe Celentano², Anna Frolova¹, Enrico Silva¹, Nicola Pompeo¹

¹Dipartimento di Ingegneria, Università Roma Tre, Italy

²ENEA Frascati Research Center, Italy

3-MP-FP5-S10

Switching processes in 2G HTS tape under magnetic field and short current pulses

Sergei Pokrovskii¹, Irina Anischenko¹, Dmitriy Abin¹, Maksim Osipov¹, Igor Rudnev¹

¹National Research Nuclear University MEPhI, Russia

3-MP-FP5-S12

Pinning Properties of Substrate Decorated YBCO Films

Achille Angrisani Armenio¹, Laura Piperno², Gianluca De Marzi¹, Valentina Pinto¹, Antonella Mancini¹, Francesco Rizzo¹, Angelo Vannozzi¹, Alessandro Rufoloni¹, Andrea Augieri¹, Ramona B Mos³, Lelia Ciontea³, Traian Petrisor³, Traian Jr petrisor³, Giovanni Sotgiu², Giuseppe Celentano¹

¹ENEA Frascati Research Centre, Italy

²Engineering Department, Roma Tre University, Italy

³Centre for Superconductivity, Spintronics and Surface Science, Technical University of Cluj-Napoca, Romania

3-MP-FP5-S14

Influence of CORC Cable Winding Mode on Its critical current and AC loss.

Tengteng Li¹

¹Southwest Jiaotong University, China

3-MP-FP5-S15**Effect of non-uniform proton irradiation on the critical current of REBCO tapes**

Haruumi Yamamoto¹, Satoshi Ito¹, Misako Miwa¹, Shigeo Matsuyama¹, Hidetoshi Hashizume¹

¹Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, Japan

3-MP-FP5-S16**Measurement of J_c inhomogeneity in High-Temperature Superconducting (HTS) bulks**

Bruno Douine¹, Mohamed Elbaa¹, Kévin Berger¹

¹GREEN - Université de Lorraine, France

3-MP-MD - Novel and Device Materials

Chairs: Gianluca Ghigo, Politecnico di Torino and Soshi Iimura, Tokyo Institute of Technology

3-MP-MD-I01**Fluctuations and Glassy Superconductivity in Granular Boron Doped Diamond**

Georgina Klemencic¹, Jonathan Fellows², Jessica Werrell¹, Soumen Mandal¹, Sean Giblin¹, Robert Smith³, Oliver Williams¹

¹Cardiff University, United Kingdom

²University of Bristol, United Kingdom

³University of Birmingham, United Kingdom

3-MP-MD-I02**Application of metamaterial nano-engineering for increasing T_c**

Michael Osofsky¹, Vera Smolyaninova², Joseph Prestigiacomo¹, Peter Rosen³, Matthew Dickson³, Brian Woodfield³, Jeffrey Lynn⁴, Nicholas Butch⁴, Heather Chen-Mayer⁴, Igor Smolyaninov⁵

¹Naval Research Laboratory, United States of America

²Towson University, United States of America

³Chemistry and Biochemistry Dept., Brigham Young University, United States of America

⁴NIST Center for Neutron Research, National Institute of Standards and Technology, United States of America

⁵Department of Electrical and Computer Engineering, University of Maryland, United States of America

3-MP-MD-S03**Discovery of 5 new superconductors using materials informatics**

Yoshihiko Takano¹, Ryo Matsumoto¹

¹National Institute for Materials Science (NIMS), Japan

3-MP-MD-S04**Performance of High T_c dc SQUIDS Based On Step-edge Josephson Junctions**

Zhu Ziqing¹

¹Peking University, State Key Laboratory For Artificial Microstructure and Mesoscopic Physics, China

3-MP-MD-S05

Influence of substrate type on superconducting properties of NbN thin films

Maros Gregor¹, Serhii Volkov¹, Tomas Roch¹, Andrej Plecenik¹

¹Comenius University, Faculty of Mathematics, Physics and Informatics, Slovakia

3-MP-MD-S06

Microwave Optimization of Connector Transitions For Superconducting Cables

Vaibhav Gupta¹, Bhargav Yelamanchili¹, Simin Zou¹, Tamara Isaacs-smith¹, John Sellers¹, David Tuckerman², Michael Hamilton¹

¹Auburn University, United States of America

²Microsoft Research, United States of America

3-MP-MD-S07

Transition Temperature and Localization in nano-sized dirty superconductors

Masaki Umeda¹, Masaru Kato²

¹Department of Mathematical Sciences, Osaka Prefecture University, Japan

²Department of Mathematical Sciences, Osaka Prefecture University, Department of Physics and Electronics, Osaka Prefecture University, Japan

3-MP-MD-S08

Superconductive Nb Nanostripes by Block Copolymer Self-Assembly

Natascia De Leo¹, Matteo Fretto¹, Federico Ferrarese Lupi¹, Irdi Murataj¹, Luca Boarino¹

¹INRIM, Italy

3-MP-MD-I09

Interplay between microstructure and performance of YBCO Josephson junctions

Fabio Isa¹, Wendy Purches¹, Jeina Lazar¹, Simon Lam¹, Avi Bendavid¹, Phil Martin¹, Cathy Foley¹, Emma Mitchell¹

¹CSIRO Manufacturing, Australia

3-MP-MG - MgB2

Chairs: Marco Bonura, University of Geneva and Gianmarco Bovone, SPIN Institute - CNR

3-MP-MG-I01

Lightweight MgB2 wires, cables and coils for mass limited applications

Pavol Kováč¹

¹Institute of Electrical Engineering of Slovak Academy of Sciences, Slovakia

3-MP-MG-I02**Magnetic shielding by machinable MgB₂ and superimposed MgB₂/Fe hollow cylinders**

Laura Gozzelino¹, Roberto Gerbaldo¹, Gianluca Ghigo¹, Francesco Laviano¹, Daniele Torsello¹, Valentina Bonino², Marco Truccato², Dan Batalu³, Mihai Grigoroscuta⁴, Mihail Burdusel⁵, Gheorghe Aldica⁵, Petre Badica⁵

¹Politecnico di Torino, Department of Applied Science and Technology, Istituto Nazionale di Fisica Nucleare, Italy

²Department of Physics, University of Torino, Istituto Nazionale di Fisica Nucleare, Italy

³University Politehnica of Bucharest, Romania

⁴University Politehnica of Bucharest, National Institute of Materials Physics, Romania

⁵National Institute of Materials Physics, Romania

3-MP-MG-S03**Nb sheathed MgB₂ superconducting tape with addition of VB₂**

Lucas Barboza Sarno da Silva¹, Lucas de Alencar Andreotti¹, Durval Rodrigues Jr¹

¹Escola de Engenharia de Lorena - Universidade de São Paulo, Brazil

3-MP-MG-S04**The critical current properties of multifilament MgB₂ wires by IMD process**

Fang Yang¹, Xiaomei Xioong¹, Qingyang Wang¹, Jianqing Feng¹, Chengshan Li¹

¹Northwest Institute for Nonferrous Metal Research, China

3-MP-MG-S05**Perspectives for large scale high pressure MgB₂ and Fe-based wire production**

Tomasz Cetner¹, Andrzej Morawski¹, Wolfgang Häßler², Maurizion Vignolo³, Gianmarco Bovone³, Marco Capra³, Daniel Gajda⁴, Andrzej Zaleski⁴, Grzegorz Gajda⁵, Krzysztof Filar⁵, Ryszard Diduszko⁶, Piotr Przysławski⁷

¹Institute of High Pressure Physics PAS, Syria

²Leibniz-Institute for Solid State and Materials Research Dresden, Germany

³SPIN CNR, Italy

⁴Institute of Low Temperatures and Structural Research PAS, Poland

⁵Frako-Term, Poland

⁶Institute of Tele- and Radiotechnics PAS, Poland

⁷Institute of Physics PAS, Poland

3-MP-MG-S06**Research activities of MgB₂ wires and tapes within the EASITRAIN project**

Matia Donato¹, Matteo Tropeano¹, Daniele Magrassi¹, Tumino Andrea¹, Davide Pietranera¹

¹ASG Superconductors Spa, Italy

3-MP-MG-S08**Development of km-grade MgB₂ superconducting wires at Sam Dong Co., Ltd.**

Jun Hyuk Choi¹, Dong Gun Lee¹, Gi Yeong Yoon¹, Ju Heum Jeon¹, Minoru Maeda², Seyong Choi², Jung Ho Kim³

¹Sam Dong Co., Ltd., South Korea

²Kangwon National University, Japan

³University of Wollongong, Australia

3-MP-MG-S09

Heat treatment influence on microstructure and properties of MgB₂ superconductor

Anastasiia Tsapleva¹, Ildar Abdyukhanov¹, Maxim Alekseev¹, Pavel Kononov¹, Elena Kotova¹

¹A. A. Bochvar's All-Russian Scientific Research Institute of Inorganic Materials (VNIITM), Russia

3-MP-MG-S10

Post-annealing Effect on MgB₂ Thin Films with Evaporation Protective Layer

Naoya Kitamura¹, Junya Demise¹, Shigeru Horii¹, Takumu Iwanaka², Toshiaki Kusunoki², Ataru Ichinose³, Toshiya Doi¹

¹Kyoto University, Japan

²Research & Development Group, Hitachi Ltd., Japan

³Central Research Institute of Electric Power Industry, Japan

3-MP-MG-S11

Current Transfer and Electrical Behavior of MgB₂/Ta/Cu Superconducting Wire

Irshad Ahmad¹

¹Functional Ceramics Laboratory, Department of Applied Physics, Indian Institute of Technology (Indian School of Mines), India

3-MP-MG-S12

Evaluation characteristics of pancake coil composed of MgB₂ Rutherford cable

Taiki Onji¹, Masaru Tomita¹, Atsushi Ishihara¹, Tsuyoshi Yagai², Tomoaki Takao², Yasuhiro Makida³, Takakazu Shintomi³, Makoto Tsuda⁴, Daisuke Miyagi⁴, Naoki Hirano⁵, Atsushi Shigemori⁶, Kentaro Nakajima⁶, Toshihiro Komagome⁷, Kenichi Tsukada⁷, Masayuki Hoshino⁷, Takataro Hamajima⁷

¹Railway Technical Research Institute, Japan

²Sophia University, Japan

³KEK, Japan

⁴Tohoku University, Japan

⁵Chubu Electric Power Co., Inc., Japan

⁶Iwatani Co., Japan

⁷Mayekawa MFG Co. Ltd, Japan

3-MP-MG-S13

Enhancement of the MgB₂ by Ga/In acetylacetonate additions obtained by SPS

Dan Batalu¹, Gheorghe Aldica², Mihail Burdusel², Mihai Grigoroscuta², Petre Badica²

¹University Politehnica of Bucharest, Materials Science and Engineering Faculty, Romania

²National Institute of Materials Physics, Romania

3-MP-MG-S14

Carbon doping in MgB₂ from proteins introduced into boron precursor

Marco Capra¹, Gianmarco Bovone¹, Cristina Bernini¹, Federico Loria¹, Marina Putti², Carlo Ferdeghini¹, Simon Hopkins³, Amalia Ballarino³, Maurizio Vignolo¹

¹SPIN-CNR Genoa, Italy

²University of Genoa, Italy

³CERN, Switzerland

3-MP-MG-S15**Influence of milling energy of the precursor on the properties of Ti-doped MgB₂**
Wolfgang Häbeler¹¹Leibniz-Institute for Solid State and Materials Research (IFW) Dresden, Germany**3-MP-MG-S16****Critical current, minimum quench energy, normal zone propagation in MgB₂ barrel**
Chris Dhulst¹, Serdar Atamer², Mehmet Kutukcu², B.A.Glowacki³, Jan Mestdag¹, Arend Nijhuis⁴¹NV Bekaert SA, Belgium²Epoch Wires Ltd, United Kingdom³Epoch Wires Ltd., Department of Materials Science and Metallurgy, University of Cambridge, United Kingdom⁴University of Twente, Faculty of Science & Technology, Foundation SuperACT, The Netherlands**3-MP-MG-S17****Sol-gel Derived Magnesium Diboride Thin Films on Silicon Carbide**Xinwei Cai¹, Zhengshan Guo¹, Chen Guo¹, Yan Zhang¹, Qingrong Feng¹, Zizhao Gan¹¹Peking University, School of Physics, Applied Superconductivity Research Center, China**3-MP-MO1 - Numerical Modelling 1**

Chairs: Antonio Morandi, University of Bologna and Mike Sumption, The Ohio State University, Materials Science Department

3-MP-MO1-I01**H-formulation modelling of a high-T_c superconducting dynamo.**Ratu Mataira¹, Mark Ainslie², Rod Badcock¹, Chris Bumby¹¹Robinson Research Institute, New Zealand²University of Cambridge, United Kingdom**3-MP-MO1-I02****Comparison of finite element formulations for HTS and ferromagnetic materials**Julien Dular¹, Christophe Geuzaine¹, Benoît Vanderheyden¹¹Department of Electrical Engineering and Computer Science, University of Liège, Belgium**3-MP-MO1-S03****Performance study of Flux-coupled Superconducting Fault Current Limiter**Bin Xiang¹, Jinkun Tu¹, Ting Yu¹, Yingsan Geng¹, Zhiyuan Liu¹, Jianhua Wang¹¹XJTU, State Key Laboratory of Electrical Insulation and Power Equipment, China**3-MP-MO1-S04****Non-Bean-Like Critical States in Superconductors in Low Applied Fields**Andrew Smith¹, Damian Hampshire², Elizabeth Surrey³¹Durham University, Department of Physics, Superconductivity Group, United Kingdom²Superconductivity Group, Centre for Materials Physics, Durham University, United Kingdom³Culham Centre for Fusion Energy, Culham Science Centre, United Kingdom

3-MP-MO1-S05

Irreversible magnetization by Interaction between Meissner current and vortices

Sangjun Oh¹

¹National Fusion Research Institute, South Korea

3-MP-MO1-S06

Study of the AC loss of the Bi-2212 round wire using three different models

Wei Chen¹

¹Southwest Jiaotong University, China

3-MP-MO1-S07

Numerical Analysis of AC Loss in HTS Coated Conductors with Defect

Yong Chen¹

¹China

3-MP-MO1-S08

Thermomagnetic instability of a superconducting strip in oblique magnetic fields

Chenguang Huang¹

¹Northwestern Polytechnical University, China

3-MP-MO1-S09

Solution of 3D magnetization problems for superconducting film stacks

Vladimir Sokolovsky¹, Leonid Prigozhin²

¹Physics Department, Ben-Gurion University of the Negev, Israel

²J Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel

3-MP-MO1-S10

A general form T-A formulation for large-scale HTS modelling

Felix Huber¹, Min Zhang², WeiJia Yuan¹

¹University of Strathclyde, United Kingdom

²University of Strathclyde, United Kingdom and Shanghai Jiao tong University, China

3-MP-MO1-S11

AC losses computation in HTS coils in the frequency domain

Yazid Statra¹, Hocine Menana¹, Bruno Douine¹

¹GREEN - Université de Lorraine, France

1530-1615 **Refreshments & Exhibition****HALLS 1 & 2****Oral Session 6**

1615-1815

1615-1815 **3-LO-HL - High Field LTS****ROOM: CLYDE AUDITORIUM**

Chairs: Arno Godeke, Varian Medical Systems
Particle Therapy GmbH and Seung Yong Hahn, Seoul National University

1615 **3-LO-HL-011**
High Magnetic Field NMR Superconducting Magnet Technology
Qiuliang Wang¹, Jianhua Liu¹, Yaohui Wang¹, Lei Wang¹, Yinming Dai¹
¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

1645 **3-LO-HL-021**
Superconductivity and High Magnetic Field Facilities
Charles Simon¹
¹LNCMI CNRS, France

1715 **3-LO-HL-031**
Development of High Field, Wide Bore Superconducting Magnets beyond 18 Tesla
Wenbin Ma¹, Timothy Hollis¹, Daniel Strange¹, Andrew Twin¹, Roman Viznichenko¹, David Warren¹
¹Oxford Instruments, United Kingdom

1745 **3-LO-HL-041**
Development of a 27.2 T superconducting magnet at IEE
Jianhua Liu¹, Qiuliang Wang¹, Lei Wang¹, Lang Qin¹, Yaohui Wang¹
¹Institute of Electrical Engineering, Chinese Academy of Sciences, China

1615-1815 **3-MO-FW - Fe-based Wires and Bulk****ROOM: FORTH**

Chairs: Valeria Braccini, CNR-SPIN and Kazumasa Iida, Nagoya University

1615 **3-MO-FW-011**
Large Critical Current Density in HIP-processed (Ba,Na)Fe₂As₂ Round Wire
Tsuyoshi Tamegai¹, Daisuke Miyawaki², Takahiro Suwa², Sunseng Pyon², Katsutoshi Takano³, Hideki Kajitani³, Norikiyo Koizumi³, Satoshi Awaji⁴

¹The University of Tokyo, Japan

²Department of Applied Physics, The University of Tokyo, Japan

³Naka Fusion Institute, National Institutes for Quantum and Radiological Science and Technology, Japan

⁴High Field Laboratory for Superconducting Materials, Institute for Materials Research, Tohoku University, Japan

1645

Withdrawn

1700

3-MO-FW-03S**Superconductivity at 48 K in heavily hydrogen-doped SmFeAsO epitaxial thin films**Jumpei Matsumoto¹, Kota Hanzawa¹, Masato Sasase², Silvia Haindl³, Takayoshi Katase¹, Hidenori Hiramatsu⁴, Hideo Hosono⁴¹Laboratory for Materials and Structures, Tokyo Institute of Technology, Japan²Materials Research Center for Element Strategy, Tokyo Institute of Technology, Japan³World Research Hub Initiative (WRHI), Institute of Innovative Research, Tokyo Institute of Technology, Germany⁴Laboratory for Materials and Structures, Tokyo Institute of Technology, Materials Research Center for Element Strategy, Tokyo Institute of Technology, Japan

1715

3-MO-FW-04S**Unique defect structure and advantageous vortex pinning properties in CaKFe4As4**Shigeyuki Ishida¹, Akira Iyo¹, Hiraku Ogino¹, Hiroshi Eisaki¹, Nao Takeshita¹, Kenji Kawashima², Keiichi Yanagisawa³, Yuuga Kobayashi³, Koji Kimoto³, Hideki Abe³, Motoharu Imai³, Jun-ichi Shimoyama⁴, Michael Eisterer⁵¹AIST, Japan²IMRA Materials R&D Co., Ltd., Japan³NIMS, Japan⁴Aoyama Gakuin University, Japan⁵TU Wien, Austria

1730

3-MO-FW-05S**Upper critical fields of the stoichiometric iron-based superconductor CaKFe4As4**Matt Bristow¹, William Knafo², Paul Canfield³, William Meier³, Stephen J Blundell¹, Amalia Coldea¹¹University of Oxford, Clarendon Laboratory, United Kingdom²Laboratoire National des Champs Magnétiques Intenses (LNCMI), CNRS-UJF-UPS-INSA, France³Ames Laboratory, 311 Iowa State University, United States of America

1745

3-MO-FW-06S**Local magnetization of EuRb-1144: superconductivity and magnetic ordering**Sigrid Halleis¹, Daniel Kagerbauer¹, Shigeyuki Ishida², Hiroshi Eisaki², Akira Iyo², Michael Eisterer¹¹Atominstut, TU Wien, Austria²Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan

- 1800 **3-MO-FW-07S**
Hidden Antiferromagnetic Phase in Electron over-doped SmFeAsO
Soshi Iimura¹, Hiroshi Okanishi¹, Satoru Matsuishi¹, Haruhiro Hiraka²,
 Takashi Honda³, Kazutaka Ikeda³, Thomas Hansen⁴, Toshiya Otomo³, Hideo
 Hosono¹
¹Tokyo Institute of Technology, Japan
²Korea Atomic Energy Research Institute, South Korea
³High Energy Accelerator Research Organization, Japan
⁴Institut Lave-Langevin, France
-
- 1615-1815 **3-MO-CU - Cuprates** **ROOM: GALA**
 Chairs: Carlo Ferdeghini, Varian Medical Systems Particle
 Therapy GmbH and Alev Aydinler, Karadeniz Technical University
-
- 1615 **3-MO-CU-011**
**Nanoengineered high temperature superconducting films with novel
 functionalities**
Anna Palau¹, Alejandro Fernández-Rodríguez¹, Jordi Alcalá¹, Xavier
 Granados¹, Xavier Obradors¹, Teresa Puig¹, Narcis Mestres¹
¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain
- 1645 **3-MO-CU-02S**
On the versatility of growing REBCO films through transient liquids
Juri Banchewski¹, Laia Soler¹, Julia Jareño¹, Silvia Rasi², Roger Guzman¹,
 Natalia Chamorro³, Jordi Farjas², Pere Roura², Cristian Mocuta⁴, Susagna
 Ricar¹, Xavier Obradors¹, Teresa Puig¹
¹Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain
²Departament de Física, Universitat de Girona, Spain
³Departament de Química Inorgànica, Universitat Autònoma de Barcelona, Spain
⁴Synchrotron SOLEIL, L'Orme des Merisiers, France
- 1700 **3-MO-CU-03S**
**YBCO nanocomposite films prepared by fluorine-free polymer assisted
 deposition**
Mircea Nasui¹, Traian Petrisor Jr.¹, Ramona Bianca Mos¹, Mihai Gabor¹,
 Lelia Ciontea¹, Traian Petrisor¹
¹Centre for Superconductivity, Spintronics and Surface Science, Technical University of
 Cluj-Napoca, Romania
- 1715 **3-MO-CU-04S**
**Ultrafast growth of YBCO films by low-pressure Transient Liquid
 Assisted Growth**
Silvia Rasi¹, Laia Soler², Julia Jareño², Juri Banchewski², Roger Guzman²,
 Jordi Farjas¹, Pere Roura¹, Cristian Mocuta³, Susagna Ricart², Xavier
 Obradors², Teresa Puig²
¹University of Girona, Spain
²Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain
³Synchrotron SOLEIL, France

1730

3-MO-CU-055**Correlations between the structure and superconducting properties of MT-YBaCuO**Tetiana Prikhna¹¹Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine

1745

3-MO-CU-065**The effect of the addition of silver on the fracture of Y-Ba-Cu-O**Jasmin Congreve¹, Yunhua Shi¹, Anthony Dennis¹, John H. Durrell¹, David Cardwell¹¹University of Cambridge, United Kingdom

1800

3-MO-CU-075**Tl-1223 superconducting films, coatings and tapes: feasibility and perspectives**Alessandro Leveratto¹, Aisha Saba¹, Andrea Malagoli¹, Ruggero Vaglio¹, Marina Putti¹, Carlo Ferdeghini¹, Emilio Bellingeri¹, Sigrid Holleis², Michael Eisterer², Alice Moros³, Johannes Bernardi³, Patrick Krkotic⁴, Joffre Gutierrez Royo⁵, Teresa Puig⁵, Sergio Calatroni⁶¹CNR - SPIN, Italy²Atominstut, TU Wien, Austria³USTEM, TU Wien, Austria⁴Cells ALBA, Spain⁵ICMAB-CSIC, Spain⁶CERN, Switzerland**1615-1815 3-EO-TS - Topological Devices and Spintronics****ROOM: CARRON**

Chairs: Thilo Bauch, Chalmers University of Technology and Olivia Chen, Yokohama National University

1615

3-EO-TS-011**Coherent Semiconductor-Based Superconducting Quantum Circuits**Karl Petersson¹¹Microsoft Quantum Lab - Copenhagen, Center for Quantum Devices, Niels Bohr Institute, University of Copenhagen, Denmark

1645

3-EO-TS-021**Bi based topological Josephson junctions**Alexander Brinkman¹¹University of Twente, The Netherlands**WEDNESDAY**

1715

3-EO-TS-03S**MoRe/YBa₂Cu₃O₇-x Josephson junctions and pi-loops**

M. I. Faley¹, P. Reith², D. C. Satrya², V. S. Stolyarov³, A. A. Golubov⁴,
H. Hilgenkamp², R. E. Dunin-Borkowski⁵

¹Peter Grünberg Institute, Germany

²Faculty of Science and Technology, MESA+ Institute for Nanotechnology, University of Twente, The Netherlands

³The Moscow Institute of Physics and Technology, Russia

⁴The Moscow Institute of Physics and Technology, Russia and Faculty of Science and Technology, MESA+ Institute for Nanotechnology, University of Twente, The Netherlands

⁵Peter Grünberg Institute, Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons, Forschungszentrum Jülich GmbH, Germany

1730

3-EO-TS-04S**Low temperature characterization of spin filter Josephson junctions**

Roberta Caruso¹, Davide Massarotti², Gabriele Campagnano², Avraadeep Pal³, Halima Giovanna Ahmad⁴, Procolo Lucignano⁵, Matthias Eschrig⁶, Mark Blamire³, Francesco Tafuri⁷

¹Dipartimento di Fisica "Ettore Pancini", Università degli Studi di Napoli Federico II, CNR-SPIN, Italy

²CNR-SPIN, Dipartimento di Ingegneria Elettrica e delle Tecnologie dell'Informazione, Università degli Studi di Napoli Federico II, Italy

³Department of Materials Science and Metallurgy, University of Cambridge, India

⁴Dipartimento di Fisica E. Pancini, Università degli Studi di Napoli Federico II, Monte S.

Angelo, via Cinthia, I-80126 Napoli, Italy, CNR-SPIN, c/o complesso di Monte S. Angelo, via Cinthia, I-80126 Napoli, Italy, Italy

⁵CNR-SPIN, Italy

⁶Department of Physics, Royal Holloway, University of London, United Kingdom

⁷Dipartimento di Fisica E. Pancini, Università degli Studi di Napoli Federico II, CNR-SPIN, Italy

1745

3-EO-TS-05S**Superconducting heterostructure with barrier with strong spin-orbit interaction**

Karen Constantinian¹, Gennady Ovsyannikov¹, Anton Shadrin², Andrey Petrzhik¹, Yulii Kislinski¹, Georg Cristiani³, Gennady Logvenov³

¹Kotel'nikov IRE RAS, Russia

²Kotel'nikov IRE RAS, Moscow Institute of Physics and Technology, Russia

³Max Planck Institute for Solid State Research, Germany

1800

3-EO-TS-06S**Dissipative Effects on Step-edge junction arrays of various sizes**

Kyle Sundqvist¹, Milton Torikachvili¹, Michael O'Brien², Shannon Kasa²,
Marco de Andrade²

¹Department of Physics, San Diego State University, United States of America

²Naval Information Warfare Center Pacific, United States of America

1615-1815 **3-EO-TM - Terahertz and Microwave Devices**

ROOM: DOCHART

Chairs: Nobuyuki Yoshikawa, Yokohama National University and Maja Cassidy, Microsoft

1615 **3-EO-TM-011**

Integrated superconducting circuits for THz imaging spectroscopy

Jochem Baselmans¹, Akira Endo², Stephen Yates³, Juan Bueno³, Pieter de Visser³, Vignesh Murugesan³, David Thoen², Shahab Dabironezare², Nuria Lombart², Sebastian Hänle³, Alejandro Pascual Laguna²

¹Delft University of Technology, SRON Netherlands Institute for Space Research, The Netherlands

²Delft University of Technology, The Netherlands

³SRON Netherlands Institute for Space Research, The Netherlands

1645 **3-EO-TM-021**

Non-linear superconducting silicon resonators

Francesca Chiodi¹, Pierre Bonnet¹, Raphaëlle Delagrange¹, Dominique Débarre¹, Hélène le Sueur²

¹Centre de Nanosciences et de Nanotechnologies - CNRS and Université Paris-Saclay, France

²Quantronics group, Service de Physique de l'Etat Condensée (CNRS URA 2464), France

1715 **3-EO-TM-035**

Titanium Nitride Microwave Kinetic Inductance Detectors for passive THz cameras

Dmitry V. Morozov¹, Simon M. Doyle², Thomas L. R. Brien², Archan Banerjee¹, Dilini Hemakumara¹, Iain G. Thayne¹, Ken Wood³, Robert H. Hadfield¹

¹School of Engineering, University of Glasgow, United Kingdom

²School of Physics and Astronomy, Cardiff University, United Kingdom

³QMC Instruments, Cardiff, United Kingdom

1730 **3-EO-TM-045**

Compact superconducting terahertz emitters up to 2 THz

Zaidong Qi¹, Hancong Sun¹, Huili Zhang¹, Olcay Kizilaslan², Wanghao Tian¹, Zuyu Xu¹, Tong Qing¹, Xianjing Zhou¹, Yangyang Lv¹, Eric Dorsch², Marc Ziegele², Shigeyuki Ishida³, Hiroshi Eisaki³, Yoshiyuki Yoshida³, Valery Koshelets⁴, Dieter Koelle², Reinhold Kleiner², Huabing Wang¹, Peiheng Wu¹

¹RISE, Nanjing University, China

²Physikalisches Institut und Center for Quantum Science in LISA+, Universität Tuebingen, Germany

³Electronics and Photonics Research Institute, Advanced Industrial Science and Technology, Japan

⁴Kotel'nikov Institute of Radio Engineering and Electronics, Russia

- 1745 **3-EO-TM-055**
High-Q superconducting microwave resonators using a single-crystal Nb film
Takashi Noguchi¹, Agnes Dominjon², Matthias Kroug³, Satoru Mima⁴, Chiko Otani⁴
¹RIKEN, NAOJ, Japan
²University of Grenoble Alpes, France
³NAOJ, Japan
⁴RIKEN, Japan
- 1800 **3-EO-TM-065**
Design and characterization of Josephson Travelling-Wave Parametric Amplifiers
Ralf Dolata¹, Ilya Golokolenov², Andrew Guthrie³, Erik Jellyman³, Sergey Kafanov³, Christoph Kissling¹, Marat Khabipov¹, Yuri Pushkin³, Jonathan Prance³, Alexander Zorin¹
¹Physikalisch-Technische Bundesanstalt, Braunschweig and Berlin, Germany
²Department of Physics, Lancaster University & National Research University HSE, Moscow, United Kingdom
³Department of Physics, Lancaster University, United Kingdom
- | | | |
|--|---|---------------|
| 1615-1815 | 3-LO-TG - Transportation & Grid Technologies | ROOM: M2 & M3 |
| Chairs: Weijia Yuan, University of Strathclyde and Lars Kuehn, Siemens | | |
- 1615 **3-LO-TG-011**
Modular HTS bulk system for magnetic train transportation
Frank Werfel¹, Uta Floegel-Delor¹, Thomas Riedel¹, Peter Schirrmeister¹, Rene Koenig¹, Viktor Kantarbar¹, Mirko Liebmann¹
¹Adelwitz Technologiezentrum GmbH, Germany
- 1645 **3-LO-TG-025**
Dynamic Characteristics of the HTS Maglev Vehicle System
Zigang Deng¹, Haitao Li¹, Jipeng Li¹, Hongdi Wang¹, Yanxing Li¹, Wuyang Lei¹, Jun Zheng¹
¹Southwest Jiaotong University, China
- 1700 **3-LO-TG-035**
Comparative Study between Electromagnet and Permanent Magnet for HTS Maglev
Yuyan Wen¹, Ying Xin¹, Wei Hong¹, Chaoqun Zhao¹
¹School of Electrical and Information Engineering, Tianjin University, China

1715

3-LO-TG-04S

A new HTS multi-filament cable to improve the efficiency of electric aircraft

Min Zhang¹, Zhuyong Li², Mingyang Wang², Fangjing Weng³, Weijia Yuan³

¹University of Strathclyde, United Kingdom and Shanghai Jiaotong University, China

²Shanghai Jiaotong University, China

³University of Strathclyde, United Kingdom

1730

3-LO-TG-05S

Progress Towards the Realization of a DC Superconducting Power Filter

Loic Queval¹, Frederic Trillaud², Bruno Douine³

¹Group of electrical engineering - Paris (GeePs), Univ. Paris-Sud, Univ. Paris-Saclay, Sorbonne University, France

²Instituto de Ingeniería, National Autonomous University of Mexico (UNAM), Mexico

³Group of Research in Electrical Engineering of Nancy (GREEN), University of Lorraine, France

1745

3-LO-TG-06S

HTS Power Switch for Flux Pumps

James Gawith¹

¹University of Cambridge, United Kingdom

1800

3-LO-TG-07S

AC Loss calculation in Electrical Machines with HTS Coils using T-A Formulation

Tara Benkel¹, Yingzhen Liu¹, Enric Pardo², Simon Wolfstädter³, Thomas Reis³, Francesco Grilli¹

¹Karlsruhe Institute of Technology (KIT), Germany

²Slovak Academy of Sciences, Slovakia

³Oswald Elektromotoren GmbH, Germany

1930-2000 **Coaches depart for Merchant Square**

2000-0100 **Conference Dinner & Ceilidh at Merchant Square**

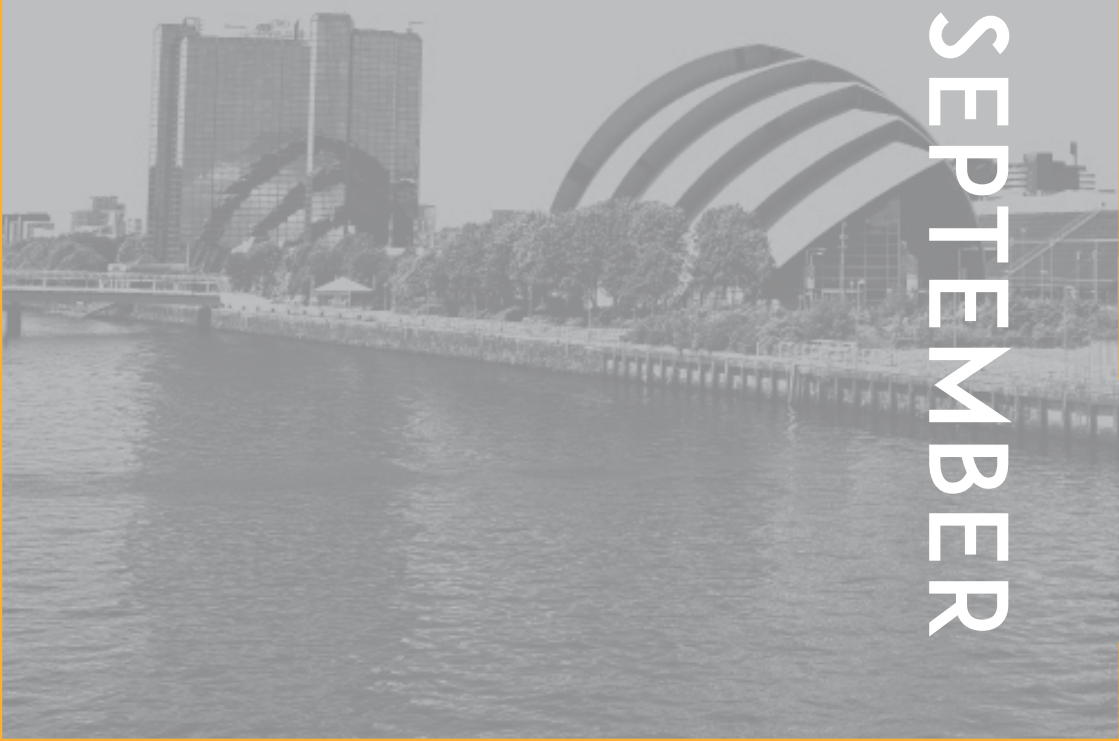
2300-0100 **Shuttle coaches depart for SEC**

WEDNESDAY



EUCAS 2019
GLASGOW

THURSDAY 5 SEPTEMBER



THURSDAY 5 SEPTEMBER

0900-1000 **4-EO-PL3 Plenary 3**

CLYDE AUDITORIUM

Chairs: Robert Hadfield, University of Glasgow
and Paul Warburton, UCL

Superconducting Quantum Circuits: Balancing Art and Architecture

Irfan Siddiqi

Lawrence Berkeley National Laboratory and Department of Physics, University of California, United States of America



Irfan Siddiqi is a Faculty Scientist at Lawrence Berkeley National Laboratory, a Department of Energy Office of Science lab, and a Professor of Physics at the University of California, Berkeley. Irfan completed his undergraduate degree in chemistry & physics and PhD in applied physics from Harvard University and Yale University, respectively. Siddiqi and his research group, the Quantum Nanoelectronics Laboratory, focus on the development of advanced superconducting circuits for quantum

information processing, including computation and metrology. Additionally, Siddiqi runs the Advanced Quantum Testbed at Lawrence Berkeley National Laboratory. Siddiqi is also the founder of the interdisciplinary Center for Quantum Coherent Science at Berkeley. Irfan is known for seminal contributions to quantum measurement science, including real time observations of wavefunction collapse, tests of the Heisenberg uncertainty principle, quantum feedback, and the development of a range of microwave frequency, quantum noise limited analogue amplifiers. Irfan is a fellow of the American Physical Society, and in 2006 was awarded the George E. Valley Jr. prize for the development of the Josephson bifurcation amplifier.

1000-1045 **Refreshments & Exhibition**

HALLS 1 & 2

THURSDAY

1045-1145 **4-LO-PL4 Plenary 4**

CLYDE AUDITORIUM

Chairs: John Durrell, University of Cambridge
and Yifeng Yang, University of Southampton

Accelerator Technology – Now and the future

Amalia Ballarino
CERN, Switzerland



Senior scientist at CERN, Amalia Ballarino was responsible for the several thousand current leads that power the superconducting magnets of the Large Hadron Collider (LHC) today. She received the award of “Superconductor Industry Person of the Year 2006” for the development of Temperature Superconducting (HTS) current leads, which was the first large-scale commercial application of HTS. After having participated in the commissioning of the Large Hadron Collider, she has been working on the development of a superconducting power transmission system based on a novel MgB₂ electrical transfer line. The system will be used in the LHC for the powering of the High-Luminosity (HL-LHC) magnets; it also has potential for power transmission in future grids. Since 2010, Amalia Ballarino has been in charge of superconductor development, characterization and procurement for the CERN accelerator complex. Her field of activity covers low- and intermediate-temperature (Nb-Ti, Nb₃Sn and MgB₂), and high-temperature (BSCCO and REBCO) superconducting wires and cables. Focus today is on the procurement of the Nb₃Sn for the HL-LHC magnets and on the R&D of high-performance superconductors for future high-energy machine.

1145-1245 **ESAS General Assembly and Prize Giving (all welcome)**
Bernhard Holzapfel, President ESAS

1245-1300 **Closing Remarks**

Co-chairs: John Durrell, University of Cambridge and Robert Hadfield,
University of Glasgow

1300-1400 **Lunch**
In a rush? Grab a lunch bag and go.

HALLS 1 & 2

THURSDAY

PUBLICATION OFFICE

Location

The Publication Office is located in the Etive, ground floor in the Loch Suite.

Opening Hours

Monday 2 September 2019	0800 – 1800
Tuesday 3 September 2019	0800 – 1800
Wednesday 4 September 2019	0800 – 1800
Thursday 5 September 2019	0800 – 1800

Contact

For any publication related questions, please contact publications@eucas2019.org giving your Programme/ Presentation ID in any correspondence.

Submission

All authors of accepted abstracts (oral or poster) are invited to submit a paper to the conference proceedings which will be published in the **Journal of Physics: Conference Series (JPCS)**, a peer-reviewed, open-access journal from Institute of Physics Publishing (UK). Only work presented at the conference will be included, and only one paper per registered attendee may be submitted. JPCS paper submission (electronic only) will be handled by EUCAS 2019 who will also manage the peer-review process. Papers accepted following peer-review are expected to be published online in April 2020.

The online submission deadline is the end of Tuesday 3rd September 2019 (24:00 hrs UK time).

The procedure to submit a paper to JPCS is as follows:

- 1) Visit the submission site:
<http://eucas2019.iopconferenceseries.rivervalleytechnologies.com/>. The webpage gives full details of the specific paper requirements for EUCAS 2019.
- 2) Authors should register themselves by clicking 'Register' on the menu at the top of the above webpage.
- 3) After registering, authors should log in and then click 'My Account' and select 'Submit Full Paper'.

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Special Focus Issue of Superconductor Science and Technology (SUST)

In addition to the main conference proceeding in JPCS, EUCAS 2019 will publish select papers of outstanding quality in a **Special Focus Issue of Superconductor Science and Technology (SUST)**. Submission to the Special Focus Issue is by **invitation only**. Invites were sent to all plenary and invited speakers before the conference. In addition, a number of contributing speakers nominated by conference session chairs will be invited to submit a paper for consideration in the Special Focus Issue. Authors cannot publish substantially the same paper in both JPCS and SUST. Consequently authors who have already submitted a JPCS paper will have the option to withdraw it if necessary before accepting the SUST invitation. The SUST submission and peer-review will be handled by the journal itself to their usual editorial standards, using a separate submission site to the JPCS papers. Invitation to submit a paper to the Special Focus Issue does not guarantee publication. The submission deadline for the Special Focus Issue papers will be after the conference on **Tuesday 15th October 2019**, with accepted papers expected to be published online from March 2020.

SHORT COURSES

Short courses in applied superconductivity are organised in conjunction with EUCAS 2019. They are a unique opportunity to discover and train in aspects of physics and engineering that cannot be found in a standard

Course 1:

Design of Superconducting magnets for particle accelerators and detectors

Date: Sunday 1 September

Time: 1000-1730

Location: M3, SEC Glasgow

This course covers the design of superconducting magnets for particle accelerators and detectors. The lectures are intended for physicists and engineers working in the areas of magnet technology and applied superconductivity, and interested in basic principles, physical parameters, analytical and numerical tools used for superconducting magnet design. For each of the applications considered, the courses will start by presenting the properties and characteristics of superconducting strands and cables. The main concepts related to magnetic design and coil lay-outs will be then outlined. In addition, the lectures will deal with the mechanics and fabrication techniques of a superconducting magnet, focusing in particular on coils and the structural components aimed at containing the electro-magnetic forces and managing the stresses. Finally, a description of the different systems devoted to cool and protect a magnet after a quench will be provided.

Speakers:

Dr Paolo Ferracin, CERN, Switzerland

Prof Herman Ten Kate, University of Twente, Netherlands

Course 2:

Superconducting Power Devices

Date: Sunday 1 September

Time: 1000-1730

Location: M2, SEC Glasgow

Many power system applications are under development using superconducting materials. Novel designs have been proposed to take advantage of the unique properties of superconducting materials and to achieve new functionalities and higher performance standards compared to conventional power devices. The short course on Superconducting

Power System Applications will cover Superconducting Fault Current Limiters, Superconducting Transformers, Superconducting Rotating Machinery, Superconducting Cables and Superconducting Magnetic Energy Storage. The course will cover the fundamentals of each application and describe, using case studies, some specific design considerations and demonstrator devices. The course will also summarize some of the future directions and research needs for advancing Superconducting Power System Applications.

Speakers:

Dr Mark Ainslie, University of Cambridge, UK

Prof Antonio Morandi, University of Bologna, Italy

Prof Mathias Noe, Karlsruhe Institute of Technology (KIT), Germany

Course 3:

Superconducting Electronics and Quantum Computation

Date: Sunday 1 September

Time: 1000-1300

Location: M4, SEC Glasgow

The Josephson effects are the basis for many applications in the field of superconducting electronics. First there will be a discussion of these effects from theoretical aspects up to applications. After introduction of single Josephson junctions different circuits will be introduced like superconducting quantum interference devices (SQUIDs) and many junction arrays for the voltage standard. The superconductor digital electronics reaches from classical logic circuits up to advanced devices and quantum computing.

Speaker:

Prof Paul Seidel, Institute of Solid State Physics, Friedrich Schiller University Jena, Germany

PUBLIC LECTURE

A lecture entitled James Watt and Precision Engineering will take place in the Clyde Auditorium on Tuesday 3 September 1830-2000 by Professor John Marsh, School of Engineering, University of Glasgow.

James Watt is one of the most illustrious engineers to be associated with the University of Glasgow. His most significant invention – the separate condenser – came to him while walking close to Glasgow Green in 1765, at a time when he was Mathematical Instrument Maker to the University. Later elected a Fellow of the Royal Society of Edinburgh (1784) and the Royal Society of London (1785), he was awarded an honorary degree by the University in 1806.

Although he did not invent the steam engine, his inventions improved their efficiency by a factor of more than 4 – so mechanical engines could do the work previously done by people and animals. As a result, by 1900 steam engines did more work than the entire world population could have done if employed solely in manual labour. The ‘age of steam’ is an expression used to describe the period between the start of the industrial revolution and the early part of the 20th century, but even today around 80% of the world’s electricity is generated using steam.

James Watt’s successful development of powerful and efficient steam engines took years of hard work, requiring a combination of his inventive mind, his interests in precision measurement, and the best engineering technology of the time.

The tradition of bringing inspirational ideas together with precision engineering continues to the present in the School of Engineering and in the James Watt Nanofabrication Centre. The presentation will reflect on Watt’s life, his inventions and the challenges he faced and relate his experience to that of carrying out world-leading engineering research today.



Professor John Marsh
Professor of Optoelectronic Systems
and Dean of University of Glasgow-UESTC

John Marsh is known for contributions in semiconductor laser technology and integrated optics, ranging from epitaxial growth through to the design and development of integrated laser modules. His research has encompassed fundamental electrical and optical properties of semiconductors, development of novel optoelectronic devices, processes for fabricating photonic integrated circuits, integrated mode-locked lasers for ultra-short pulse generation, and development and manufacturing of high-power laser array modules. As an entrepreneur he has cofounded three companies, including Intense Ltd in 2000 to exploit his research in high power lasers; the company was sold in 2011 and continues to operate from a base in New Jersey. A Fellow of the Royal Academy of Engineering, Royal Society of Edinburgh, IEEE, OSA, IET, Institute of Physics and Royal Society of Arts, he was President of the IEEE Photonics Society in 2008-9. He was awarded the 2006 IEEE/LEOS Engineering Achievement Award and the 2006 LEOS Distinguished Service Award. He received the Chengdu Jinsha Friendship Award from the City of Chengdu in Sichuan Province, China, in 2017.

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SOCIAL EVENTS

Civic Welcome Reception

1800-2000 Sunday 1 September 2019
at the Glasgow Science Centre

Civic reception hosted by The Rt Hon The Lord Provost of Glasgow.



Exhibitor Reception & Whisky Tasting

1815-2000 Monday 2 September 2019 in Halls 1 & 2

You will have the opportunity to taste a number of Scottish whiskies, as well as purchase bottles.



Conference Dinner & Ceilidh

2000-0100 Wednesday 4 September 2019 at Merchant Square

Coach transport departs from the front of the Armadillo to go to Merchant Square from 1930. A return shuttle service will run between 2300 - 0100 returning to the SEC.

What is a Ceilidh?

A ceilidh (pronounced kay-lee) is a traditional Scottish social gathering, involving Scottish country dancing and Gaelic folk music. We have a live ceilidh band and professional Scottish dancers to show you how it's done and get you on your feet.

Refreshments & Lunches

Refreshments and lunches take place in Halls 1 and 2. Lunch is included for delegates, accompanying guests and exhibitors.

Lunch on Thursday is a lunch bag, so if you are in a hurry, you can still take a lunch bag and go.



ANCILLARY MEETINGS

Sunday 1 September 2019

ESAS Board Meeting

(by invitation only)
1600-1800
Room M4 (Meeting Academy)

Monday 2 September 2019

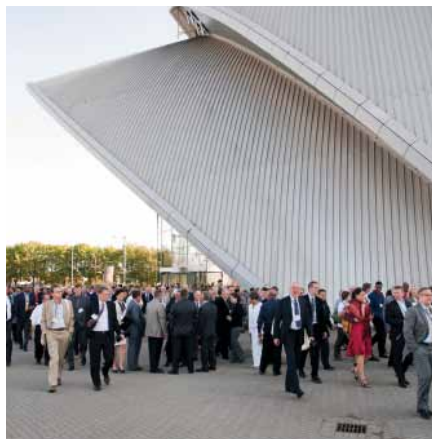
SUST Board Meeting

(by invitation only)
1245-1400
Room M2 & M3 (Meeting Academy)

Tuesday 3 September 2019

IEC-IEEE Board Meeting

(by invitation only)
1245-1445
Room M2 & M3 (Meeting Academy)



Wednesday 4 September

SuperOx Meeting

(by invitation only)
0900-1000
Room M2 & M3 (Meeting Academy)

EUCAS 2019 Sub-editors' Meeting

(by invitation only)
1315-1415
Room M2 & M3 (Meeting Academy)

Thursday 5 September 2019

ESAS General Assembly

ESAS holds its General Assembly at EUCAS, all EUCAS registrants are qualified ESAS members. You are invited to participate to the general ESAS assembly.
1145-1200
Clyde Auditorium (after Amalia Ballarino plenary)

CIGRE Working Group D1.64

(by invitation only)
0900-1600
Room Dochart 1

IEC/TC90 - WG3

(by invitation only)
1400-1600
Room Carron 1

IEC/TC90 - WG12

(by invitation only)
1600-1800
Room Carron 2

ESAS Board Meeting

(by invitation only)
1400-1700
Room M2 (Meeting Academy)

PRACTICAL INFORMATION

Registration

Registration desks are located in Hall 1 at the SEC. Delegates should collect their badge and conference bag at Registration, upon arrival at the SEC.

The badge must be worn prominently in order to gain access to the SEC, including all scientific and social events. Admission will be refused to anyone not in possession of an appropriate badge.

If you have lost your badge, a replacement badge can be printed at the Help Desk.

Registration opening hours are:

Sunday 1 September 2019:	0930 - 1900
Monday 2 September 2019:	0800 - 2000
Tuesday 3 September 2019:	0800 - 1815
Wednesday 4 September 2019:	0800 - 1815
Thursday 5 September 2019:	0800 - 1400

Help Desk

The conference Help Desk is located in Hall 1 for any queries relating to payment, badge reprinting, or access. The Help Desk can be contacted on +44 (0)1722 430766 from 0800-2000.

Exhibitor Desk

The Exhibitor Desk is located in Hall 1 for any queries relating to your exhibition stand.

Poster Desk

The Poster Desk is located in Hall 1 for the poster plan and Velcro.

Venue

Scottish Event Campus (SEC)
Exhibition Way
Glasgow G3 8YW, Scotland
Tel: +44 (0)141 248 3000
Email: info@sec.co.uk
www.sec.co.uk

WiFi

Complimentary WiFi is available throughout the SEC. No username or password is required.

Network: SEC

Complimentary WiFi is available in the Glasgow Science Centre.

Network: EUCAS

Password: EUCAS2019

Water

In order to reduce single use plastic bottles, water coolers are situated in Halls 1 and 2. Delegates are encouraged to refill their own reusable water bottles.

Bank

There are two Clydesdale Bank ATMs in the west lobby of the SEC.

Cloakroom

Located in the west lobby of the SEC. Please note there will be a charge per item for this service.

First Aid

If medical assistance is required:

1. Go to the SEC First Aid Room, located next to the information desk on the concourse OR
2. 0141 576 3290 (non-emergency control room) OR speak to any steward for assistance

If urgent medical assistance is required and the patient is unable to get to the First Aid Room

3. Dial 0141 576 3888 (emergency control room) OR
4. Dial 999 and notify a member of the security staff and/or organisers, giving the location of the incident AND
5. Remain with the injured person until the arrival of the medical staff

Neither EUCAS 2019 nor the conference organisers are responsible for individual medical, travel or personal insurance. Delegates are requested to arrange their own travel and health insurance.

Smoking Policy

There is a no smoking policy within the SEC, Glasgow Science Centre, Merchant Square or any building..

Lost Property

Lost property will be handed in to the Information Desk located on the Concourse.

Code of Conduct

All exhibitors are expected to comply with the code of conduct to providing a friendly, safe, harassment-free conference for everyone, regardless of gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, or religion.

Photography/Videography Policy

To avoid disruption, no photography or video recording of presentations is permitted.

■ Characteristic Feature

- Superior in-field critical current and excellent mechanical properties applicable for magnet applications
- Original layer manufacturing technique of IBAD & PLD process enabling high superconducting performance



■ Schematic of Typical specification

Stabilizer [Cu Pating] 28 μm

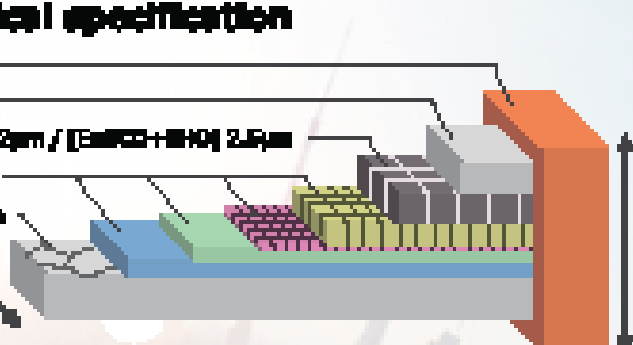
Protection Layer [Ag] 2 μm

Superconducting Layer [REBCO] 2 μm / [BaPbCO+REMO] 2.5 μm

Buffer Layer [PbO, etc.] 0.7 μm

Substrate [Hastelloy-6] 25/80 μm

Typical Width 4-12 mm



Typical Thickness 0.11-0.18 mm

■ Typical Specifications

Products	Width [mm]	Thickness [mm]	Substrate [mm]	Stabilizer [mm]	Critical Current [A]	
					77K, 0.1T	300K, 0T ^{①②}
FRSC-BCH04	4	0.13	70	20	≥ 100	300
FRSC-BCH12	12	0.13	70	20	≥ 300	—
FRSC-BL2 ③	12	0.08	70	—	≥ 500	—
FRSC-BCH04 ④	4	0.11	50	20	≥ 80	310
FRSC-BCH12 ④	12	0.11	50	20	≥ 250	—

① HTS wire without super-stabilizer is available in only 12mm width for current lead applications.

② Additional plating specification for use at low temperatures and high magnetic field

③ 2nd/3rd HT is reference value and not guarantee of the actual performance.

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Fujikura Ltd.

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info-en@fj.fujikura.com

Europe

Fujikura Europe Ltd.

+44-20-5240-2900

superconductor@fujikura.com

www.fujikura.co.uk

America

Fujikura America, Inc.

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Visit us at the EUCAS 2019 conference, Stand #10

IN MEMORIAM

Massimo Marezio (1930 – 2019)

Massimo Marezio passed away this year ending a brilliant career, which was dedicated on the one hand, to the discovery and crystallographic study of new materials, and high critical temperature superconductors (HTS) in particular, and on the other hand to the federation of research activities.

Following his thesis in the field of physics-chemistry at the University of Rome in 1954, Mr Marezio began his research with Professor A. Cimino at the University of Rome. He then worked at the University of Chicago where he distinguished himself with the crystallographic study of new compounds. His results earned him recognition and recruitment in 1963 to the Bell Telephone Laboratory in TH Geballe's group in which BT Matthias explored original ways of finding new superconductors with J. Remeika and DB McWhan.

His 1969 sabbatical year at the Laboratory of Metal Physics of Grenoble CNRS led by Louis Néel proved key for his career. He was recruited in 1973 to the Laboratory of Crystallography and became director from 1982 to 1990. Dr Marezio used the discovery of HTS in 1986 to develop the means of synthesis (including pressure synthesis), electron microscopy and crystallography of new SC phases. It brought together the skills of Caen (B. Raveau) and Grenoble to the ILL (A. Hewat) and the CNRS to determine the structure of YBCO in a highly cited work. The interactions he maintained between CNRS and the ATT Bell Laboratories (1986-1995), particularly with R. J. Cava, proved exceedingly positive and fruitful in a period of intense competition. Thanks to the interactions with the researchers of the Moscow University (E.V. Antipov and S.N. Putilin) the first elements of the mercury cuprate family were synthesized under pressure in Grenoble. The T_c record 165 K was determined under high pressure (20 GPa) simultaneously in Houston and Grenoble in 1993.

Until his retirement in 1996, Massimo led and directed research on HTS at the CNRS. However, "retirement" didn't compute to a someone as passionate as Massimo, who was then invited by the Consiglio Nazionale delle Ricerche (CNR) in Italy in 1996 to be a scientific expert an outstanding status under the guidance of L. Zanotti and F. Licci in Parma. During his mission there (1996-2001), Massimo set up a new research activity on the synthesis of new metastable phases under high pressure, carried a national project of CNR on the industrial applications of superconductivity and devoted himself to the federation of research on materials and applications of superconductors at the European level within the thematic network SCENET (Superconducting European Network) funded by the European Commission. SCENET included about 60 academic laboratories and 30 industrial laboratories and allowed better coordination of research activities in the field of superconductivity and its applications. This activity contributed to cement the links of the European superconductivity community and train a new generation of researchers through the organization of a series of summer schools. Back in Grenoble in 2002, Massimo continued to lead the SCENET network and conduct research on new superconducting phases. The work of Massimo Marezio, imbued with both creativity and great scientific rigor, is marked by numerous publications (more than 300) and results that are always authoritative and earn him world-wide recognition. He trained many doctoral students. The list of his achievements however, only partially reflects the importance of his work, which was especially marked by his human qualities and ability to gather the skills required for breakthroughs.

Massimo Marezio leaves us with the memory of a man, who showed great kindness, listened to everyone, and was always open-minded to be able to give birth to new ideas.



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Hyatt Regency Hotel
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 Boehm, Matthias 2-LO-EA
 Boll, Martin 1-MP-CU, 1-MO-MP, 2-LO-EA,
 2-LP-SMA
 Bong, Uijong 3-LO-HH
 Bonifaci, Nelly 2-LP-CO
 Bonifetto, Roberto 1-LO-FL, 1-LP-FM
 Bonino, Valentina 3-MP-MG
 Bonnet, Pierre 3-EO-TM
 Bonura, Marco 1-MO-BK1, 1-MO-N3T, 1-MO-MP,
 2-MP-NB
 Bordini, Bernardo 1-MO-N3T, 1-LP-AM2, 2-MP-NB,
 2-MO-AP
 Borges, Carla 2-LP-FCT
 Borghesi, Matteo 2-EO-DA
 Börsch, Michael 1-MP-SPR

Bortot, Lorenzo 1-LP-AM2
 Bosque, Ernesto 3-LO-HH
 Bottura, Luca 1-LP-FM, 1-LO-AM1, 3-LP-BM
 Bouloukakis, Konstantinos 2-LO-OM
 Boutboul, Thierry 2-MO-AP
 Boventer, Isabella 2-EO-QT
 Bovone, Gianmarco 3-MP-MG, 3-MO-BM
 Bozbey, Ali 2-EP-DE2, 3-EP-SQ
 Bozhko, Dmytro 2-EP-TMP, 3-EP-QQ
 Braccini, Valeria 2-MO-FT, 2-MO-FT, 3-MO-FP4
 Bradshaw, Tom 2-MP-BK2
 Bragin, Aleksei 1-LO-AM1, 1-LP-AM2
 Brand, Joerg 1-LP-PC
 Brandt, Mira 2-MO-FT
 Braumüller, Jochen 3-EP-QQ
 Brehm, Jan 2-EO-QT, 3-EP-QQ
 Breschi, Marco 1-MP-SPR
 Brevik, Justus 2-EP-TMP, 3-EO-FA
 Brey, William 2-EP-TMP
 Brialmont, Sébastien 1-MP-SPR
 Briatico, Javier 1-EP-SP
 Brien, Thomas L. R. 3-EO-TM
 Brindza, Paul 1-LP-AM2
 Brinkman, Alexander 3-EO-TS
 Bristow, Matthew 3-MP-FM, 3-MO-FW
 Brittles, Greg 2-LO-FH, 3-MP-FP5, 3-LP-NM
 Brooks, Justin 1-MO-MP
 Brown, Joe 3-LP-BM
 Brown, Michael D. 3-MO-BM
 Brownsey, Paul 1-MP-FP2
 Brunkahl, Oliver 1-MO-SCC, 3-MP-CC3
 Bruzek, Christian-Eric 1-LP-FCL, 1-LP-PC, 1-LO-SFC
 Bruzzone, Pierluigi 3-LP-BM, 1-LO-FL, 1-LP-FM, 2-LO-FH
 Buchholz, Alexander 1-MP-CC1
 Büchner, Bernd 2-MO-FT
 Bueno, Juan 3-EO-TM
 Bultman, Nathan 1-LP-AM2
 Bumby, Chris 1-MO-MP, 2-LO-RM, 2-LP-SMA, 3-MP-FP5, 3-MP-MO1, 3-LP-HM
 Búran, Marek 2-LP-FCT
 Burchell, Joseph 3-LP-NM
 Burdusel, Mihail 3-MP-MG, 3-LP-BM
 Burger, William 1-LP-AM2
 Burkhardt, Earle 1-LP-AM2
 Burnett, Jonathan 2-EO-QT, 3-EO-FA, 3-EO-SNQ
 Burnside, Kalin 3-LP-HC
 Burt, Graeme 1-MP-SPR
 Buta, Florin 1-MO-BK1, 1-MO-N3T
 Butch, Nicholas 3-MP-MD
 Bykovskiy, Nikolay 3-LP-NM

Cai, Ruizhe 2-EO-DE1
 Cai, Xinwei 3-EP-SQ, 3-MP-MG
 Çakır, Bakiye 1-MP-CU
 Calaga, Rama 3-LO-CA
 Calatroni, Sergio 2-LP-RF, 2-MO-AP, 3-MO-CU, 3-LO-CA
 Calleja, Alberto 1-LO-SFC, 1-LP-FCL, 1-MP-CC1, 3-MO-FP4
 Calvi, Marco 2-LP-RF
 Campagnano, Gabriele 3-EO-TS, 1-EP-JJ, 2-EO-QT
 Campbell, Archie 1-MP-CU, 2-LO-OM
 Campi, Gaetano 1-MP-SPR
 Canale, Matthieu 1-LO-AM1
 Canfield, Paul C. 2-MO-FT, 3-MO-FW
 Capra, Marco 3-MO-BM, 3-MP-MG
 Carapella, Giovanni 3-EP-SQ
 Cardwell, David A. 2-MP-BK2, 3-MO-CU, 2-MP-BK2, 1-MP-CU, 1-MO-MP, 1-MO-BK1
 Carlsen-O'Connor, Ella 1-MP-BI
 Caron, Hervé 1-LP-PC
 Carota, Gene 1-MP-FP2
 Carpentiero, Rita 1-LP-AM2
 Carugno, Giovanni 3-EO-FA
 Caruso, Roberta 1-EP-JJ, 2-EO-QT, 3-EP-QQ, 3-EO-TS
 Carvalho, Claudio 1-MP-CU
 Casaburi, Alessandro 1-EP-SP, 2-EP-TMP, 3-EP-QQ
 Cassidy, Maja 2-EO-QT
 Cassinese, Antonio 2-LP-RF
 Castaldo, Bernardo 1-LO-AM1
 Castellanos-Beltran, Manuel 2-EO-DE1, 3-EO-FA
 Castillo, Nancy 3-MP-FM
 Cavallucci, Lorenzo 2-LO-OM
 Cayado, Pablo 1-MP-CU, 1-MO-MP, 1-MP-FP2, 2-MO-FP1
 Celentano, Giuseppe 1-MP-SPR, 1-MP-FP2, 1-MP-CU, 2-MO-FP1, 3-MO-BM, 3-MP-FP5, 3-MP-FM
 Çelik, Mustafa Eren 2-EP-DE2
 Černý, Radovan 1-MO-BK1
 Cetner, Tomasz 3-MP-FM, 3-MO-BM, 3-MP-MG
 Chamorro, Natalia 1-MP-FP2, 2-MO-FP1, 3-MO-CU
 Chang, Wei 1-LP-AM2
 Chao, Wang 2-MO-FT
 Chapman, I. 1-LO-KN1
 Charaev, Ilya 1-EP-SP, 1-EO-NW
 Charifoulline, Zinur 1-LP-AM2
 Chase, Joseph 1-MO-SCC
 Chase, Simon 1-EP-SP
 Chassagnoux, Raphaël 2-LP-CO
 Chaud, Xavier 1-MO-N3T, 3-LO-HH
 Cheetham, Peter 1-LO-CA, 1-LP-PC
 Cheggour, Najib 1-MP-SPR, 1-MO-N3T
 Chen, C. 2-MP-CC2
 Chen, Chun-Ping 1-EP-JJ
 Chen, Chunsheng 1-MP-CC1, 3-MP-CC3
 Chen, C-S 1-MO-SCC

Chen, Hongyi 3-LP-NM
 Chen, Huang 2-LP-FCT, 3-MP-CC3
 Chen, Jian 1-EP-SP, 2-EP-DE2, 2-EP-SDP
 Chen, Jianguo 1-MP-SPR
 Chen, Jianhui 2-LP-CO
 Chen, Jie 3-EP-SQ, 2-LP-FCT
 Chen, Jingping 1-LP-AM2
 Chen, Ke 1-EP-JJ
 Chen, Lei 1-EP-JJ, 3-EO-SNQ
 Chen, Liyun 1-EP-JJ, 2-EP-DE2
 Chen, Olivia 2-EO-DE1
 Chen, Qi 1-EP-SP
 Chen, S K 1-MO-SCC
 Chen, Shi 2-EP-DE2
 Chen, Shu 2-EO-QT
 Chen, Wei 1-MP-EP, 3-MP-MO1, 3-LP-NM
 Chen, Yong 3-MP-MO1
 Chen, Yongliang 2-MP-NB
 Chen, Yu-Ren 3-EP-SQ
 Chen, Zhi Ning 2-EP-SDP
 Cheng, Cuihua 2-MP-NB
 Cheng, Ran 1-EP-EA, 2-EP-DE2
 Cheng, Yi 2-LP-SMA
 Cheng, Zhe 3-MP-FM
 Chengshan, Li 3-MP-FM
 Chen-Mayer, Heather 3-MP-MD
 Chepikov, Vsevolod 2-MO-CP
 Cherednichenko, Sergey 1-EO-NW, 2-EP-SDP
 Cherif, Chokri 3-LP-LE
 Cherpak, Nickolay (Mykola) 3-MP-FM
 Chesta, Enrico 1-LP-AM2
 Chiarelli, Sandro 3-MO-BM
 Chichkov, Vladimir 2-EO-DA
 Chikumoto, Noriko 1-MP-SPR, 2-LO-FH
 Chiodi, Francesca 3-EO-TM
 Chiriach, Rodica 1-MO-N3T
 Chislett-McDonald, Simon 2-MP-NB
 Chiu, Wei-Wen 3-EP-SQ
 Chiuchiolio, Antonella 1-LO-AM1
 Choi, Jun Hyuk 3-MP-MG
 Choi, Kyeongdal 1-LP-FCL, 3-LP-BM, 3-LP-HC
 Choi, Seyong 3-MP-MG
 Chong, Shen 2-MP-FP3, 3-MP-FM
 Chromik, Stefan 2-MP-FP3
 Chu, Jingyuan 1-MP-CC1
 Chu, Yong 1-LP-FM
 Chukharkin, Maxim 1-EO-AJ
 Chung, Juhyun 1-MP-FP2
 Ciceron, Jérémie 3-LP-LE
 Ciantanni, Vito 3-LP-HM, 1-MP-EP
 Giontea, Lelia 1-MP-FP2, 3-MO-CU, 3-MP-FP5
 Cirillo, Matteo 3-EP-SQ
 Clarke, Simon J. 3-MP-FM
 Clemente-Alarcon, Vicente 2-LO-RM, 1-MO-BK1, 1-MO-MP, 2-LP-CO, 2-LP-SMA
 Coelingh, Gert-Jan 1-LO-AM1
 Colangelo, Marco 1-EO-NW, 1-EP-SP

Coldea, Amalia I. 3-MP-FM, 3-MO-FW
 Coll, Mariana 2-MO-FP1
 Collantes, Yesusa 3-MP-FM
 Colle, Alexandre 2-LO-EA
 Collings, Edward 2-LP-MR, 3-MO-BM
 Collins, Jon 1-EP-SP
 Collins, Jonathan 2-EP-TMP
 Conde-Gallardo, Agustin 3-MP-FM
 Congreve, Jasmin 3-MO-CU
 Constantinian, Karen 3-EO-TS
 Constantino, Nicolas 3-EO-FA
 Cooley, Lance 3-LO-CA
 Coombs, Tim 2-LP-FCT, 3-LP-HM, 3-LO-HH
 Cooper, Jonathan 3-MO-BM
 Corato, Valentina 1-LO-FL
 Corduan, Matthias 2-LO-EA, 2-LP-SMA
 Couëdo, François 1-EP-JJ, 1-EP-SP, 1-EO-AJ
 Cox, David 3-EP-SQ
 Crescini, Nicola 3-EO-FA
 Crété, Denis 1-EO-AJ
 Creusot, Christophe 2-LP-CO
 Crisan, Adrian 2-MP-FP3, 3-MP-FP5
 Cristiani, Georg 3-EO-TS
 Cristiano, Roberto 3-EP-SQ
 Cruciani, Angelo 2-EP-SDP
 Cubero, Álvaro 2-LO-OM, 3-LP-HM
 Cuninková, Eva 3-MP-CC3
 Cure, Benoît 1-LO-AM1
 Cybart, Shane 3-EO-SNQ

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D'Agostino, Domenico 1-MP-SPR
 da Silva Lopes, Artur Jorge 1-MP-CU
 Dabironezare, Shahab 3-EO-TM
 Dabrowski, Bogdan 1-MP-FP2
 Dadhich, Anang 1-MO-BK1
 Dadiel, Longji 3-MO-BM
 Dai, Chao 1-LP-FM, 1-MP-BI, 2-LP-MR, 2-MP-NB, 3-MP-CC3
 Dai, Jinhao 2-EP-TMP
 Dai, Shaotao 1-LO-SFC, 3-LP-BM
 Dai, Tianli 2-LP-MR
 Dai, Yinming 3-LO-HL
 Daibo, Masanori 1-MO-SCC
 Dam, Magnus 1-LP-AM2
 Danaie, Mohsen 1-MP-CC1
 Dane, Andrew 1-EO-NW, 1-EP-SP
 Daniel, Andrada 1-MP-CU
 Danilin, Sergey 3-EP-QQ, 2-EP-TMP
 Danilov, Andrey 2-EO-QT
 Dao, Van Quan 1-LP-FCL
 Davidas, Ana-Cristina 1-EP-EA
 Davies, Timothy 1-MO-BK1, 2-MP-NB
 Davis, Daniel S. 3-MO-BM, 3-LO-HH

Day, Peter. K. 2-EP-SDP
de Andrade Júnior, Rubens 2-LP-FCT
de Andrade, Marcio 3-EO-TS
de Bruyn, Bart 3-LP-NM
De Gerone, Matteo 2-EO-DA
de Graaf, Sebastian 2-EO-QT
de Léo, Ana Carolina 1-MP-CU
De Leo, Natascia 3-MP-MD
De Marzi, Gianluca 3-LP-NM, 3-MP-FP5, 2-MO-FP1, 3-MP-FM

de Oliveira Junior, Alessandre 1-MP-SPR
de Rijk, Gijs 1-LP-AM2, 1-LO-AM1, 3-LP-BM
De Roo, Jonathan 1-MP-FP2, 2-MO-FP1
de Sousa, Wesley Tiago Batista 2-LP-FCT
de Visser, Pieter 3-EO-TM
Débarre, Dominique 3-EO-TM
Debray, François 3-LO-HH
Degtyarenko, Pavel 1-LP-PC, 2-MO-CP
DeKamp, Jon 1-LP-AM2
Dekker, Ronald 2-EP-DE2
Delagrangé, Raphaëlle 3-EO-TM
DeLeon, Daniel 1-MO-SCC
Delfanazari, Kaveh 1-EO-AJ
della Corte, Antonio 1-LO-FL
Delport, Johannes 1-EP-JJ
Demétrio Mariano 2-LP-FCT
Dias Carneiro, Henrique 3-MP-MG
Demise, Junya 2-MO-AP
Demolon, Pierre 3-LP-LE, 3-LO-TG
Deng, Zigang 1-MP-CU, 1-MP-EP, 1-MO-MP, 1-MO-BK1, 2-MP-BK2, 2-LP-RF, 3-MO-CU, 3-LP-BM, 3-LP-HM
Dennis, Anthony R. 2-MP-NB
Deryagina, Irina 1-LP-FCL, 3-MO-FP4
Deutscher, Guy 2-LO-EA
deWaele, A.T.A.M. 2-LP-SMA
Dezhin, Dmitry 2-LP-SMA
Dezhina, Irina 3-MP-MG
Dhulst, Chris 2-EP-SDP
Di Domizio, Sergio 3-EO-FA
Di Gioacchino, Daniele 1-LO-FL
Di Zenobio, Aldo 3-MP-MD
Dickson, Matthew 1-LP-FM
Dicuozzo, Ortensia 1-LP-FCL
Didier, Gaëtan 3-MP-FM, 3-MP-MG
Didusko, Ryszard 3-LP-BM
Diev, Dmitry 1-MP-CU, 2-MO-FP1
Díez Sierra, Javier 1-MP-FP2
Dinescu, Adrian 3-LO-HH
Dixon, Iain 2-EP-TMP
Dixon, Thomas 3-LP-HM
Dobrin, Andrei 3-LP-HM
Dobrin, Ion 1-MP-CU
Dobrovolný, Kryštof 1-EO-NW
Doerner, Steffen

Doert, Thomas 3-MP-FM
Doi, Toshiya 1-MP-CU, 1-MP-CC1, 2-MP-CC2, 3-MP-CC3, 3-MP-MG

Doi, Yuma 2-LP-SMA
Dolata, Ralf 2-EP-TMP, 3-EO-TM
Dold, Gavin 3-EO-SNQ
Doll, David 2-LP-MR, 3-MO-BM
Dominjon, Agnes 3-EO-TM
Donato, Mattia 3-MP-MG
Dong, Chiheng 3-MP-FM
Dong, Hui 3-EP-SQ
Dong, Qi 2-LP-SMA
Dong, Qian 3-LP-LE
Dong, Xiaoli 3-MP-FM
Donnelly, Christine 2-EP-TMP, 2-EO-DE1
Dorget, Rémi 1-LP-PC, 3-LP-BM
Dorsch, Eric 3-EO-TM
dos Santos Costa, Felipe 2-LP-FCT
Dovine, Bruno 2-MP-FP3, 3-LO-TG, 3-MP-MO1, 3-LP-HC, 3-MP-FP5

Down, Richard 1-MP-SPR
Doyle, Simon M. 3-EO-TM
Drache, Johannes 1-MP-SPR
Dresselhaus, Paul 2-EO-DE1, 2-EP-TMP, 3-EO-FA
Driscoll, Judith 2-MO-FP1
Drung, Dietmar 1-EO-AJ
Du, Boxue 2-LP-CO
Du, Ho Ik 3-MP-CC3
Du, Jia 1-MP-FP2, 1-EP-EA
Du, Shuangsong 1-LP-FM
Du, Xiaojie 1-LP-PC
Duan, Hao 3-LP-NM
Duarte, Elwis 2-MP-FP3
Dubinin, Mikhail 1-LO-CA
Dudarev, Alexey 1-LO-AM1, 3-LP-NM
Dular, Julien 1-MP-CC1, 3-MP-MO1
Duman, Şeyda 1-MP-CU
Dumitru, George 3-LP-HM
Dunin-Borkowski, R. E. 3-EP-SQ, 3-EO-TS
Dupont-Ferrier, Eva 3-EO-SNQ
Durrell, John H. 1-MO-MP, 1-MO-BK1, 1-MP-CU, 2-MP-BK2, 2-LP-RF, 3-MO-CU, 3-LP-BM, 3-LP-HM

Dutoit, Bertrand 1-LO-SFC, 1-LP-FCL, 2-LP-FCT, 3-MO-FP4
Dvoranová, Mária 1-MP-SPR

E

Eardley, Edwin 2-MP-BK2
Ebana, Akiya Sean 3-EP-SQ
Ebara, Yuta 2-LP-MR
Edison, Arthur 2-EP-TMP
Eguchi, Ryo 2-LP-MR
Eisaki, Hiroshi 3-MO-FW, 3-MP-FM, 3-MO-FP4,

Eisterer, Michael
3-MP-FM, 3-EO-TM
1-MP-BI, 1-MP-CC1, 1-MO-N3T,
2-MP-FP3, 2-MO-CP, 2-MP-CC2,
2-MP-NB, 3-MP-FP5, 3-MO-CU,
3-MO-FP4
3-EP-SQ
1-EP-JJ
Elarabi, Asem
3-MP-FP5
Elschner, Steffen
1-LP-PC, 2-LP-FCT
Elshiekh, Mariam
3-LP-LE
El-Wakeel, Abdelrahman
1-LP-PC, 3-LP-LE
Enache, Dan
3-LP-HM
Endo, Akira
3-EO-TM
English, Charles
3-LO-HH
Enss, Christian
1-EP-JJ, 3-EP-SQ, 3-EO-SNQ
Erbe, Manuela
1-MP-CU, 1-MO-MP, 1-MP-FP2,
2-MO-FP1
2-EO-DA
Ermakov, Andrey
1-MP-SPR
Erni, Pascal
1-EP-SP
Erotoakritou, Kleanthis
1-LP-PC, 2-LP-FCT, 1-LO-SFC
Escamez, Guillaume
3-EO-TS, 2-EO-QT
Eschrig, Matthias
3-LP-LE
Espanhahn, Tilo
1-MP-SPR
Evans, Beth
3-EO-FA
Evgeni, Ilichev

F

Fabbri, Fabio
1-MP-SPR, 1-MP-CU, 3-MP-FM,
3-MP-FM, 3-MP-FM
Fabbriatore, Pasquale
1-LO-AM1
Fagnard, Jean-François
1-MP-SPR, 2-LO-OM
Fairman, Philip
3-EP-SQ, 1-EO-AJ
Faley, M. I.
3-EO-TS, 3-EP-SQ
Falorio, Iole
3-LP-PC
Falter, Martina
1-MP-CU, 1-MO-SCC, 1-MP-CU,
2-MO-FP1
2-EO-DE1, 2-EP-DE2
Fan, Dong-Rui
2-EO-QT
Fan, Heng
2-LP-FCT, 3-LP-HC, 3-LP-NM,
3-MP-FP5
2-EO-QT
Faoro, Lara
2-MP-FP3, 3-LP-HC
Fareed, Muhammad Umar
1-LO-AM1
Farinas, Jordi
3-MO-CU, 2-MO-FP1
Farrer, Ian
1-EO-AJ
Faverzani, Marco
2-EP-SDP, 2-EO-DA
Favie, Ludovic
1-LP-AM2
Fazilleau, Philippe
3-LO-HH
Febvre, Pascal
2-EP-DE2, 1-EP-JJ, 3-EP-SQ
Feighan, John
1-MP-FP2, 2-MO-FP1
Feldman, Leonard
1-EP-JJ
Felgner, Judith
2-EP-TMP
Fellows, Jonathan
3-MP-MD
Feng, Changle
1-LP-FM

Feng, Jianqing
3-MP-MG
Feng, Qingrong
3-MP-MG
Feng, Yong
2-MP-NB
Fenton, J. C.
3-EP-QQ, 3-EO-FA
Ferdighini, Carlo
3-MO-CU, 3-MP-MG, 3-MO-FP4,
3-MO-BM
Fernández-Rodríguez,
Alejandro
3-MO-CU
Ferracin, Samuele
2-EP-SDP
Ferradas Troitino, Jose
1-MO-N3T
Ferrarese Lupi, Federico
3-MP-MD
Ferrarese, Fabrizio Mario
1-MP-CU
Ferrari, Simone
1-EO-NW
Ferreira da Silveira, Máximo
1-MP-CU
Ferri, Elena
2-EP-SDP
Ferring, Anna
3-EP-SQ
Fetisov, Sergey
1-LO-CA, 3-LP-HC
Feuillet-Palma, Cheryl
1-EP-SP, 1-EP-JJ, 1-EO-AJ
Fiamozzi Zignani, Chiarasole
1-LO-FL, 3-MP-FM
Fietz, Walter H.
1-LO-CA
Filar, Krzysztof
3-MP-FM, 3-MP-MG
Filatella, Giovanni
2-EP-SDP
Filicori, Fabio
1-MP-SPR
Filipenko, Mykhaylo
1-MP-CU, 2-LO-EA, 2-LP-SMA
Filippenko, Lyudmila
2-EP-TMP
Filippov, Timur
2-EP-DE2
1-LP-PC
Fink, Stefan
1-LO-AM1
Fiscarelli, Lucio
3-MO-FP4, 3-MP-FP5, 1-MP-CCI
Fischer, David X.
3-EO-SNQ
Fleischmann, Andreas
3-EO-SNQ
Fleiter, Jerome
1-LP-AM2, 2-MP-NB, 3-LP-NM,
2-MO-AP, 3-LP-HC
1-MP-CU, 3-LO-TG
Floegel-Delor, Uta
2-EO-DA
Florya, Irina
3-MP-MD, 3-EP-SQ, 1-EO-AJ
Foley, Cathy
2-EO-DA
Foltyn, Marek
2-EP-TMP
Fominskiy, Mikhail
1-EP-JJ, 1-EP-EA, 2-EP-DE2,
3-EP-SQ
Fowler, Joseph W.
2-EO-DA
Fox, Anna
3-EO-FA, 2-EP-TMP
Frank, Michael
2-LO-RM
Frédéric, Forest
3-LP-LE
Freisleben, Walter
1-LP-AM2
Freitag, Wolfram
1-MP-CU, 2-MO-FP1
Fretto, Matteo
3-MP-MD
Freytag, Nicolas
2-EP-TMP
Fricke, Marko
1-LP-FM
Friedman, Alex
3-LP-LE
Frolek, Lubomir
3-MP-CC3
Frolava, Anna
3-MP-FP5
Fry-Bouriaux, Louis
3-EP-QQ
Fu, Rong-Liang
2-EP-DE2
Fuchs, Dirk
2-MO-CP
Fuchs, Günter
3-LP-LE
Fujihisa, Hiroshi
3-MP-FM
Fujimaki, Akira
1-EP-EA, 3-EP-SQ

Fujishiro, Hiroyuki 2-MP-BK2, 3-LP-BM, 2-MP-FP3,
1-MO-MP, 1-MO-BK1
Fujita, Shinji 1-MO-SCC
Fujita, Shuma 1-EP-JJ
Fukuda, Mitsuhiro 2-LP-MR
Fukui, Satoshi 3-LP-HC, 3-MO-BM
Fukumoto, Yusuke 1-LP-PC
Fukushima, Toru 1-MP-FP2
Funaki, Shuhei 2-MP-CC2
Furukawa, Takuma 1-MP-SPR
Furuse, Mitsuho 1-MP-CC1
Furuya, Taiki 1-MP-FP2
Futamura, Muneo 3-LP-LE

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Gabcan, Ludmila 1-MP-CU
Gabor, Mihai Sebastian 1-EP-EA, 1-MP-CU, 1-MP-FP2,
3-MO-CU
Gaffoor, Mohammed Zaahid 2-MP-BK2
Gaifullin, Marat 1-MP-FP2, 1-MP-SPR
Gajda, Daniel 3-MP-FM, 3-MO-BM, 3-MP-MG
Gajda, Grzegorz 3-MP-FM, 3-MP-MG
Gallego, Aitor 3-MP-CC3
Gallo, John 3-EP-SQ
Gallot-Lavallee, Olivier 2-LP-CO
Gallucci, Giovanni 2-EO-DA
Galstyan, Eduard 2-MO-AP
Gambardella, Umberto 1-MP-SPR
Gamperle, Luc 1-MO-N3T
Gan, Zizhao 3-EP-SQ, 3-MP-MG
Ganni, Rao 1-LP-AM2
Gao, Bo 1-MP-SPR, 2-EP-SDP
Gao, Han 3-LP-NM
Gao, Huijuan 1-LP-FCL
Gao, Lei 1-LO-SFC, 2-LP-CO
Gao, Peifeng 3-LP-NM, 3-MP-CC3
Gao, Xiang 1-LP-FM
Gao, Xiaoping 2-EP-DE2, 1-EP-JJ
Gao, Zilin 2-MP-BK2
Garcia, Diana 1-MP-FP2, 1-MP-CC1
Garcia, Vanessa 2-LP-RF
Gard, Johnathon D. 2-EO-DA
Gatti, Claudio 3-EO-FA
Gauquelin, Nicolas 1-MP-FP2
Gavrilkin, Sergei 3-MP-FM
Gawith, James 3-LO-TG, 3-LP-HM
Gazquez, Jaime 2-MO-FP1
Geng, Haifeng 2-EP-SDP
Geng, Jianzhao 3-LP-HM
Geng, Xin 3-MP-CC3
Geng, Yingsan 1-LO-SFC, 2-LP-CO, 3-MP-MO1
Geng, Yue 1-EP-EA, 2-EP-SDP
Gentini, Luca 1-LO-AM1
Gerbaldo, Roberto 2-EP-SDP, 2-MO-FT

Geuzaine, Christophe 1-MP-CC1, 3-MP-MO1
Ghabeli, Asef 3-LP-NM
Ghigo, Gianluca 2-EP-SDP, 2-MO-FT, 3-MP-MG,
3-MO-FP4, 3-MP-FM
Ghosh, Ajay Kumar 2-MP-BK2
Giachero, Andrea 2-EO-DA, 2-EP-SDP
Giannini, Enrico 1-MO-BK1
Giannini, Lorenzo 1-LO-FL
Giblin, Sean 3-MP-MD
Gilst, Danielle 1-MP-BI
Girodet, Alain 2-LP-CO
Gleixner, Thomas 2-LO-EA
Glowacki, Bartłomiej 1-MO-MP, 1-MO-BK1, 2-LO-RM,
2-LP-CO, 2-LP-SMA, 3-MP-MG
Gnilsen, Johannes 2-MP-CC2, 2-MO-CP
Godeke, Arno 2-LO-OM
Godfrey, Tom 3-EP-SQ
Gokhfeld, Denis 3-LP-HC
Golokolenov, Ilya 3-EO-TM
Golosnoy, Igor 1-LP-PC
Golovchansky, Igor 1-EP-JJ
Goltsman, Gregory 1-EO-NW, 2-EO-DA
Golubov, Alexander 3-EO-TS, 1-EP-JJ
Gömöry, Fedor 1-MP-EP, 1-LP-FCL, 2-LP-FCT,
2-MO-CP, 3-MP-CC3, 3-MP-FP5
Gonçalves Sotelo, Guilherme 2-LP-FCT
Goo, Jisung 3-LP-HC
Gordeeva, Anna 3-EO-FA
Gosselin, Olivier 2-LO-EA
Goteti, Uday Sravan 1-EP-EA, 2-EP-DE2
Goto, Takuya 1-LP-FM
Gotoh, Yoshito 3-MP-FM
Gozzelino, Laura 2-EP-SDP, 2-MO-FT, 3-MO-FP4,
3-MP-MG
Grabner, Lukas 1-LO-CA, 1-LP-PC
Granadeiro Costa, Angelo Rafael 2-MO-AP
Granados, Xavier 1-LO-SFC, 3-MO-CU, 1-MP-CC1,
2-LP-RF, 3-MO-FP4
Granata, Carmine 3-EO-SNQ
Grancea, Alex 1-EO-AJ, 3-EP-SQ
Grantić, Branislav 1-MP-SPR
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Greenwood, Jack 1-MO-MP
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Grib, Alexander 1-EP-JJ
Grigoroscuta, Mihai 2-MP-FP3, 3-MP-MG, 3-LP-BM
Grilli, Francesco 1-MO-BK1, 2-LO-EA, 3-LO-HH,
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Grinenko, Vadim 2-MO-FT
Gromoll, Dirk 2-LP-CO
Große, Veit 1-MO-SCC, 1-MP-CC1, 1-LO-SFC,
2-MP-CC2
Grovenor, Chris 1-MO-BK1, 1-MP-BI, 1-MP-CC1,
2-MP-NB, 2-MP-BK2, 3-MP-FP5
Grundmann, Joern 2-LO-EA, 2-LO-RM

Guan, Mingzhi 3-LP-HM, 3-MP-CC3, 3-LP-HM
 Guanjie, Liu 1-LP-PC
 Guo, Chen 3-MP-MG
 Guo, Lingzhen 2-EQ-QT
 Guo, Qiang 2-MP-NB
 Guo, Xueyi 2-EQ-QT
 Guo, Zhengshan 3-EP-SQ, 3-MP-MG
 Guo, Zichuan 1-LP-FM
 Gupta, Deepnarayan 2-EP-DE2
 Gupta, Ramesh 1-LO-AM1
 Gupta, Sandeep 2-EP-DE2
 Gupta, Vaibhav 3-MP-MD
 Gurevich, Alex 3-LO-CA
 Gurnham, Charles 2-MP-CC2
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 Habelok, Krzysztof 2-LP-SMA
 Hadfield, Robert H. 1-EP-SP, 2-EP-TMP, 3-EP-QQ, 3-EQ-TM
 Haese, Kerstin 2-LO-EA
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 Han, Xuetao 2-LP-CO
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 Heideman, Daniel 2-LP-SMA
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 Hirsch, Holger 1-LO-CA

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 Hoffmann, Christian
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 Holleis, Sigrid
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 Holmes, Andrew
 Holzapfel, Bernhard

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 Honda, Takashi
 Hong, Wei
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 Hopkins, Peter
 Hopkins, Simon C.

 Horide, Tomoya
 Horii, Shigeru

 Horikawa, Junsei
 Hornak, Lawrence
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 Hoshino, Masayuki
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 Hu, Xinbo
 Hu, Yanlan
 Hua, Tao
 Huang, Chenguang
 Huang, Guanbin
 Huang, Han-Sheng
 Huang, Hao-Wei
 Huang, He
 Huang, J.
 Huang, Kai Yuan (Danny)

 Huang, Kai-Weng
 Huang, Xiaolei
 Huang, Yibing
 Huang, Zhen
 Huber, Felix
 Huh, Jeong-Uk
 Hühne, Ruben

 Huhtinen, Hannu
 Huijuan, Chen
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 3-LO-TG
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 Ibi, Akira
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 Ichinose, Ataru

 Ida, Tetsuya
 Iida, Kazumasa
 Iijima, Yasuhiro
 Imura, Soshi
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 Imai, Motoharu
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 Inatani, Yoshihumi
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 Insinga, Andrea R.
 Ionescu, Marinela Alina
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 Irie, Kotaro
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 Isaacs-Smith, Tamara
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 Ishihara, Atsushi
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 Ivanov, Nickolay
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 3-MP-CC3
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 1-MO-SCC
 3-MO-FW
 2-EO-DA
 3-MO-FW
 1-EP-EA, 2-MO-FT
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 3-MP-FM
 2-LP-MR
 2-LP-SMA
 1-EP-EA
 1-MP-CC1, 3-MP-CC3
 2-LP-MR
 1-MO-CS
 2-MP-FP3
 2-EP-DE2
 2-EP-TMP
 3-MP-MD
 3-MP-MD
 3-MO-FP4, 3-MP-FM, 3-MO-FW,
 3-EO-TM
 2-EO-DA
 3-MP-MG, 1-LP-PC
 1-MP-FP2
 2-LP-MR, 3-LP-LE, 3-LP-HC
 1-MO-MP
 1-LP-FCL, 2-LP-FCT
 3-EP-SQ
 1-LO-SFC, 1-LP-FM, 1-MP-SPR,
 2-MP-CC2, 3-MP-FP5
 3-LO-HH
 1-LP-AM2
 2-EP-DE2
 3-MP-FP5
 2-LO-RM, 2-LP-SMA
 3-LO-HH
 1-MP-SPR, 2-LP-FCT, 2-LP-SMA
 2-LP-SMA
 2-LO-FH

Iwanaka, Takumu
Iyo, Akira
Izumi, Mitsuru
Izumi, Tero
Izumi, Teruo

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Jackman, Kyle
Jackson, Koran
Janeke, Charles E
Jang, YoongSeo
Jankovský, Ondřej
Janosek, Michal
Jareño, Julia
Jaroszynski, Jan
Jarvis, Alan Lawrence Leigh
Jellyman, Erik
Jeon, Ju Heum
Jeon, Youngmu
Jeong, Hyun Gi
Jesorka, Aldo
Jha, Alok
Ji, Yu
Jia, Xiaoqing
Jiang, Guangyu
Jiang, Jianyi
Jiang, Jinpeng
Jiang, Junjie
Jiang, Xin
Jiang, Zhenan
Jianqing, Feng
Jiao, Xiaoqing
Jin, Biao-Bing
Jin, Huan
Jin, Hui
Jin, Jin
Jin, Yirong
Jin, Zhijian
Jin, Z-J
Jixing, Liu
Jo, Young-Sik
Johansson, Christer
Johnston, Taylor
Jones, Antony
Joyce, Hannah J.
Juliao, Andre
Junaid, Muhammad
Jung, Alexandra
Junginger, Tobias
Juster, François-Paul

3-MP-MG
3-MO-FW, 3-MP-FM, 3-MO-FP4
2-MP-BK2, 2-LP-SMA
2-LP-SMA
1-MP-FP2, 1-MP-SPR, 2-LP-FCT,
2-LP-SMA

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1-EP-SP
2-LP-CO
1-LP-PC
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3-EP-SQ
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2-MP-BK2
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3-MP-MG
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2-MO-CP
3-LP-LE
2-EP-DE2
1-MO-SCC
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2-LP-CO
2-LP-MR
2-MP-FP3
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2-MP-CC2, 3-LP-NM, 3-MP-FP5
3-MP-FM
1-EP-SP
1-EP-EA
1-LP-FM, 2-LO-FH
1-LP-PC
1-EP-SP
2-EO-QT
2-LP-FCT
1-MO-SCC
3-MP-FM
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1-EP-EA, 1-MP-FP2
1-EO-AJ
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2-LP-CO
3-MP-CC3
1-MP-SPR
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Kagerbauer, Daniel
Kails, Kevin
Kajikawa, Kazuhiro
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Kakeya, Itsuhiro
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Kalsi, Swarn
Kamada, Yoshinori
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Kamiya, Tomohiro
Kanazawa, Shintetsu
Kaneko, Yasuhiro
Kanemaru, Ryota
Kang, Lin
Kang, Rui
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Kantarbar, Viktor
Kapek, Jakub
Kapolka, Milan
Karimi, Bayan
Karpov, Sergey
Karpov, Victor
Karrer, Max
Kasa, Shannon
Kasaei, Leila
Kashcheev, Andrey
Kashiwagi, Hayato
Kashtanov, Evgeniy
Katam, Naveen
Katase, Takayoshi
Kato, Masaru
Kato, Takeharu
Kawagoe, Akifumi
Kawakami, Akira
Kawanami, Junya
Kawasaki, Goki
Kawashima, Kenji
Ke, Fei
Ke, Zhihao
Keenan, Shane T.
Kelleher, Joe
Kelly, Michael J.
Kempf, Sebastian
Kennedy, Oscar
Kenny, Lee
Kermorvant, Julien
Khabipov, Marat
Khan, Mukarram Zaman
Khayat, Maha
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2-LP-FCT, 2-LP-SMA
3-LP-NM
3-MO-FW
1-EP-JJ
1-MO-SCC
1-EO-AJ, 3-EO-SNQ
1-LP-PC
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1-MP-BI
3-EP-SQ
2-MP-CC2
3-LP-LE
2-LP-SMA
2-EP-DE2
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1-LP-PC
1-MP-CU, 3-LO-TG
2-LP-SMA, 3-LP-NM
1-MO-BK1, 3-LP-NM
3-EO-FA
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1-MP-CU
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2-EP-DE2
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 Kopylov, Sergey 1-LP-PC
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 Kulaev, Yurii 1-MP-EP, 3-LP-LE

Kumar, Abhinav 1-MP-EP, 2-MP-CC2
 Kumata, Yukio 2-LP-RM
 Kummeth, Peter 2-LO-RM
 Kunert, Jan 1-MO-SCC, 3-MP-CC3
 Kupriyanov, Mikhail 1-EP-JJ
 Kurbatov, Pavel 1-MP-EP, 3-LP-LE
 Kurbatova, Ekaterina 1-MP-EP, 3-LP-LE
 Kursumovic, Ahmed 2-MO-FP1
 Kúš, Peter 1-MP-SPR
 Kusaka, Kensuke 1-LP-AM2
 Kuschenko, Egor 1-MP-EP, 3-LP-LE
 Kusunoki, Toshiaki 3-MP-MG
 Kutukcu, Mehmet 3-MP-MG
 Kuwata, Minoru 1-LP-FCL
 Kuzmin, Artem 1-EO-NW, 2-EP-SDP
 Kuzmin, Leonid 3-EO-FA
 Kuznetsov, Gennadiy 2-LO-RM, 2-LP-SMA
 Kvirkovic, Jozef 3-LP-HC
 Kwok, Wai-Kwong 3-MP-FM
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 Lackner, Friedrich 1-MO-N3T
 Lacroix, Christian 1-LO-SFC, 2-MO-CP, 3-MO-FP4
 Lai, May Hsim 1-MP-FP2
 Lakrimi, M'hamed 2-MP-NB
 Lalitha, Lakshmi 1-LP-AM2
 Lam, Simon KH 1-MP-FP2, 1-EP-EA, 3-MP-MD
 Lan, Tian 3-LP-BM, 3-LP-HC
 Lange, Christian 1-LO-CA
 Langer, Marco 3-MP-FM
 Langtry, Tony 2-LO-FH
 Lao, Mayraluna 2-MO-CP
 Larbalestier, David C. 1-MP-BI, 1-MO-N3T, 1-MO-BK1,
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 3-MP-FM
 Lasek, Pawel 2-LP-SMA
 Laviano, Francesco 2-EP-SDP, 2-MO-FT, 3-MP-MG
 Lazar, Jeina Y. 3-MP-MD, 1-EO-AJ
 le Roux, Paul 2-EP-DE2
 le Sueur, Hélène 3-EO-TM
 Le, Dinh Vuong 1-LP-PC
 Leboeuf, David 1-MO-BK1
 Leclerc, Sébastien 1-MP-EP
 Lecrevisse, Thibault 3-LO-HH
 Lee, Aaron 1-EO-AJ
 Lee, Chulhyu 1-LO-CA
 Lee, Dong Gun 3-MP-MG
 Lee, Hunju 3-LP-HM
 Lee, Hyeong-Jin 1-LP-FCL
 Lee, Hyunjung 1-LP-FM
 Lee, Jae-Hun 1-MO-CS, 3-LP-HM
 Lee, Jaein 1-LP-FCL

Lee, Ji-Kwang 3-LP-BM, 3-LP-HC
 Lee, Peter J. 1-MO-N3T, 2-MP-NB
 Lee, Sang-Kil 3-EP-SQ
 Lee, Seok-Ju 1-LP-PC, 1-LP-PC
 Lee, Seong-Joo 2-LP-MR, 3-EP-SQ
 Lee, Sergey 1-MP-SPR, 1-MO-SCC, 1-MP-FP2,
 2-MO-CP
 Lee, Seyeon 1-LP-FCL, 3-LP-HC, 3-LP-BM
 Lee, Shin-Won 2-LP-FCT
 Lee, Su-Yong 1-EP-EA
 Lee, Yong-Ho 3-EP-SQ
 Leek, Peter 2-EO-QT
 Legendre, Pierre 2-LP-CO
 Lehmann, Alf 2-EP-DE2
 Lei, Lei 3-LO-HH
 Lei, Ming 1-MP-EP
 Lei, Wuyang 3-LO-TG
 Leith, Stewart 2-MP-FP3
 Lemaître, Yves 1-EO-AJ
 Leo, Antonio 3-MO-FP4, 3-EP-SQ
 Lepehin, Vladimir 3-LP-BM
 Leppäkangas, Juha 2-EO-QT
 Lesaint, Olivier 2-LP-CO
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 3-LP-NM
 Leveratto, Alessandro 3-MO-BM, 3-MO-CU
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 Li, Chao 2-LP-FCT, 3-LP-HM
 Li, Chengshan 3-MP-MG
 Li, Chunguang 2-EP-TMP
 Li, Guanqun 2-EP-DE2
 Li, Guoqiang 2-EP-TMP
 Li, H. 1-EP-SP
 Li, Haitao 3-LO-TG, 3-LP-LE
 Li, Hao 1-EP-SP, 1-EO-NW
 Li, Hong 2-EP-TMP
 Li, Honghu 2-EP-SDP
 Li, Hongxu 2-LP-CO
 Li, Jianfeng 2-MP-NB, 2-LP-MR, 2-LP-FCT
 Li, Jin 2-LP-CO
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 Li, Junjun 1-LP-FM
 Li, Mengjun 1-EP-JJ
 Li, Ming 3-LP-NM
 Li, Pei-Zhan 1-EP-EA, 2-EP-SDP
 Li, Pingyuan 2-MP-NB
 Li, Qiuju 1-LP-FCL, 1-LP-PC
 Li, Quan 1-LP-PC, 2-LP-MR, 2-LP-SMA,
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 Li, Yanxing 3-LO-TG

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- Martini, Luciano 1-LP-FCL
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 Miller, George 3-LO-HH
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 Mimbū, Masataka 1-LP-FCL
 Mimura, Masanao 1-LP-PC
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 Mitsubori, Hitoshi 2-LP-MR
 Miura, Hideaki 2-LP-MR
 Miura, Masashi 1-MP-FP2, 3-MP-FM, 3-MP-FP5
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 Mocuta, Cristian 2-LO-CA
 Moeller, Dirk 2-LO-EA
 Moldenhauer, Stefan 2-LO-EA
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 Morega, Mihaela 3-LP-HM
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 Morici, Luigi 1-LO-FL
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 Morikawa, Eisuke 2-LP-MR
 Morimura, Toshiya 1-LO-CA
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 Moros, Alice 2-MP-NB, 3-MO-CU
 Morozov, Dmitry V. 1-EP-SP, 3-EO-TM

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 Mos, Ramona Bianca 1-MP-CU, 1-MP-FP2, 3-MP-FP5,
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 Moša, Marek 2-LP-FCT, 2-MO-CP
 Moseley, Dominic 1-MP-CU, 3-LP-HM, 3-LP-BM
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 Masri, Marco 1-MO-SCC
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 Mousavi, Tayebbeh 2-MP-NB, 1-MP-BI
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 Murataj, Irdi 3-MP-MD
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 Na, Sinhye 2-MP-NB
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 Nagai, Setsura 2-LP-CO
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 Nguyen, Hai 1-LP-AM2
 Ni, Dongsheng 1-LP-AM2
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 Palmer, Xavier 1-MP-CC1
 Palmieri, Luca 1-LO-AM1
 Palonen, Heikki 2-MP-CC2, 1-MP-CC1, 3-MP-CC3
 Pamidi, Sastry 1-LO-CA, 1-LP-PC, 3-LP-HC
 Pan, Alexey V 1-MP-FP2, 1-EP-EA
 Pan, Jiazheng 2-EP-TMP
 Pan, Xifeng 2-MP-NB
 Panghotra, Ritika 1-EP-JJ
 Pankratov, Andrey 3-EO-FA
 Pantoja, Andres (Oilly) 2-LO-RM
 Pansyrny, Victor 2-MP-NB
 Pardo, Enric 1-MO-BK1, 2-LO-EA, 2-LP-SMA,
 3-LO-TG, 3-LP-NM
 Park, Minwon 1-LO-CA, 1-LP-FCL, 1-LP-PC
 Parlato, Loredana 3-EP-SQ
 Pascual Laguna, Alejandro 3-EO-TM
 Pashkin, Yuri 2-EP-TMP
 Pasini, Gaetano 1-MP-SPR
 Pasquet, Raphael 3-LP-LE
 Patel, Anup 2-LO-OM, 3-LP-NM
 Patil, Mohit 1-LP-AM2
 Patrakov, Evgeny 2-MP-NB
 Paturi, Petriina 1-MP-CU, 1-MP-FP2, 1-MP-CC1,
 2-MO-FP1, 2-MP-CC2, 3-MP-CC3

Paudel, Nawaraj 2-MP-NB, 1-MO-N3T
 Paul, Jharna 1-EP-SP
 Pedram, Massoud 2-EP-DE2
 Pegrum, Colin 1-EO-AJ, 3-EP-SQ
 Pei, Xiaoze 3-LP-NM, 3-LP-LE
 Peixoto de Abreu, Leonardo Picanço 1-MP-CU
 Pekar iková, Marcela 1-LP-FCL, 2-LP-FCT, 2-MO-CP,
 3-MP-CC3
 3-EO-FA
 Pekola, Jukka 3-MP-FP5
 Peng, Nianhua 2-LP-SMA
 Peng, Sisi 1-EP-JJ
 Peng, Wei 3-MO-BM, 2-MP-NB, 1-MO-N3T
 Peng, Xuan 2-LP-SMA
 Penkin, Vladimir 1-LP-FCL
 Penna Fernandes, David 3-MP-FM
 Pentimalli, Marzia 3-EP-QQ, 1-EP-JJ, 2-EO-QT,
 3-EP-SQ
 Pepe, Giovanni Piero 3-LP-LE
 Perel, Eliezer 2-LP-FCT
 Pérez, Belén 2-LP-RF, 2-MO-AP
 Perez, Francis 1-LO-AM1
 Perez, Juan Carlos 1-EO-NW
 Pernice, Wolfram 2-MO-FT, 3-MP-FM
 Pervakov, Kirill 1-EO-AJ
 Pesetski, Aaron 2-EO-DA
 Pessina, Gianluigi 1-MP-CU
 Pessoa, Aleksander 3-EO-TS
 Petersson, Karl 2-EP-TMP
 Petrich, Maikel 1-EP-SP
 Petrini, Nicolo 1-MP-FP2, 1-EP-EA, 1-MP-CU,
 3-MO-CU, 3-MP-FP5
 Petrisor Jr., Traian 1-LP-PC
 Petrov, Alexander 1-MO-SCC, 1-MP-FP2, 2-MO-CP
 Petrykin, Valery 3-EO-TS, 2-MO-CP
 Petrzehik, Andrey 1-EO-AJ
 Petsche, Frank 1-EO-AJ, 3-EO-SNQ
 Pfeiffer, Christoph 1-MO-SCC
 Pfeiffer, Ken 1-MO-N3T, 2-MP-NB, 3-MO-FP4
 Pfeiffer, Stephan 2-LO-RM
 Phang, Sinhoi 3-MP-MG
 Pietranera, Davide 1-LP-PC
 Pilgrim, James 1-LO-AM1
 Pincot, Francois-Olivier 1-MP-CU
 Pimangkorn, Sungsanee 1-MP-CC1, 3-MP-CC3
 Pino, Flavio 3-LP-HM
 Pinteá, Radu 2-MO-AP
 Pinto, Pedro Costa 1-MP-FP2, 1-MP-SPR, 1-MP-CU,
 2-MO-FP1, 2-MO-FP1, 3-MP-FM,
 3-MP-FP5
 Pinto, Valentina 1-MP-CU, 1-MP-FP2, 1-MP-SPR,
 2-MO-FP1, 3-MP-FM, 3-MP-FP5
 Piperno, Laura 2-LP-RF, 2-MP-FP3
 Pira, Cristian 1-LP-AM2
 Plastun, Alexander 3-MP-MD, 1-MP-SPR
 Plecenik, Andrej 1-MP-SPR
 Plecenik, Tomás

Podlivaev, Alexsey 1-MP-EP
 Pokrovskii, Sergei 1-MP-EP, 3-LP-LE, 3-MP-FP5
 Polasek, Alexander 2-LP-FCT
 Polikarpova, Maria 2-MP-NB
 Politi, Sara 1-MP-CU
 Polyakov, Alexei 3-LP-BM
 Polyakova, Margaret 1-EO-NW, 2-EO-DA
 Polychroniou, Elias 3-EP-SQ
 Pompeo, Nicola 2-MP-FP3, 3-MO-FP4, 3-MP-FP5,
 2-MO-FP1, 2-MO-FT
 Ponomarev, Semyon 2-MP-FP3
 Pont, Montse 2-LP-RF, 2-MO-AP
 Pop, Cornelia 1-MP-FP2, 3-MO-FP4
 Pop, Ovidiu 1-EP-EA
 Popov, Ruslan 1-MP-FP2
 Popov, Yuri 1-LP-AM2
 Popova, Elena 2-MP-NB
 Popovici, Iuliu 3-LP-HM
 Portillo, Mauricio 1-LP-AM2
 Potapenko, Mikhail 2-MP-NB
 Potter, Jamie A. 3-EO-FA, 3-EP-QQ
 Prance, Jonathan 3-EO-TM
 Pratap, Rudra 2-MO-AP
 Presotto, Alice 1-MP-SPR, 2-MP-FP3
 Prestemon, Soren 1-LO-AM1
 Prestigiacomo, Joseph 3-MP-MD, 1-MO-CS
 Preuss, Alan 1-LO-CA
 Prigozhin, Leonid 3-MP-MO1
 Prikhna, Tetiana 2-MP-FP3, 3-MO-CU
 Prin, Herve 1-LP-AM2
 Principe, Rosario 1-LP-AM2
 Prioli, Marco 1-LP-AM2
 Pronto, Anabela 2-LP-FCT
 Protheroe, Stephen 2-EP-DE2
 Prozorov, Ruslan 2-MO-FT
 Prusseit, Werner 1-MO-SCC
 Przybysz, Anthony 1-EO-AJ
 Przybysz, John 1-EO-AJ
 Przysłupski, Piotr 3-MP-FM, 3-MP-MG
 Puig, Teresa 1-MP-CC1, 1-MP-FP2, 1-LO-SFC,
 1-MP-CU, 1-MO-CS, 2-LP-RF,
 2-MO-FP1, 2-MO-AP, 3-MO-CU,
 3-MO-FP4
 Puiu, Andrei P. 2-EO-DA, 2-EP-SDP
 Pukenas, Aurimas 2-MO-FT
 Purches, Wendy E. 1-EO-AJ, 3-EP-SQ, 3-MP-MD
 Pushkin, Yuri 3-EO-TM
 Putti, Marina 3-MP-MG, 3-MO-CU, 3-MO-BM,
 3-MO-FP4, 3-MP-FM, 3-MO-FW



Qi, Zaidong 3-EO-TM
 Qin, Jinggang 1-MP-BI, 1-MP-EP, 1-MP-SPR,
 1-LP-FM, 2-LP-MR, 2-LP-FCT,
 2-LO-FH

Qin, Lang 3-LO-HL, 3-LP-HM
 Qin, Xing 2-MP-NB
 Qing, Tong 3-EO-TM
 Qiu, Longqing 3-EP-SQ
 Qiu, Qingquan 1-LP-FCL, 1-LP-PC
 Qiu, Wei 1-EP-EA
 Qu, Hongyi 2-LP-MR
 Qu, Pei-Yao 2-EP-DE2
 Qu, Timing 3-LP-HM, 2-LO-RM
 Queralto, Albert 1-MP-CU, 1-MP-CC1, 3-MP-CC3
 Quéval, Loïc 2-LP-SMA, 3-LO-TG
 Quintal, João Ricardo 1-MP-CU

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Raginel, Vivien 1-LP-AM2
 Raine, Mark 1-MP-CU, 2-MO-AP
 Ramaswamy, Vijaykumar 2-EP-TMP
 Ramdane, Brahim 3-LP-NM
 Rasi, Silvia 2-MO-FP1, 3-MO-CU
 Ravaoli, Emmanuele 1-LP-AM2
 Razmkhah, Sasan 3-EP-SQ, 2-EP-DE2
 Readman, Peter 2-MO-AP
 Reaume, Marc 1-LP-AM2
 Recoba Pawlowski, Eliana 1-EO-AJ
 Reintsema, Carl D. 2-EO-DA
 Reis, Thomas 3-LO-TG, 2-LP-SMA, 2-LO-EA
 Reiser, Mario 1-MP-SPR
 Reith, P. 3-EO-TS
 Ren, Jie 1-EP-JJ, 2-EP-DE2
 Ren, Yong 1-LP-FM
 Revin, Leonid 3-EO-FA
 Ribani, Pier Luigi 3-LP-LE
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 3-MP-CC3, 3-MO-CU, 3-MO-FP4
 Ricci, Alessandro Maria 1-LO-AM1, 1-MP-SPR
 Richard, Simon 3-MO-FP4
 Richter, Daniel 3-EO-SNQ
 Richter, Stefan 2-MO-FT
 Riedel, Thomas 1-MP-CU, 3-LO-TG
 Ries, Rastislav 2-MP-FP3, 3-MP-FP5
 Rijckaert, Hannes 1-MP-FP2, 1-MP-CU, 2-MO-FP1
 Rikel, Mark O. 1-MP-CU, 1-MP-SPR, 1-MO-SCC,
 1-MP-BI, 2-MO-FP1, 3-MP-CC3
 Rindfleisch, Matt 3-MO-BM, 2-LP-MR, 1-MO-N3T,
 3-MP-FM
 Ringsdorf, Bernd 3-MP-CC3
 Ritchie, David A. 1-EO-AJ
 Riva, Nicolò 2-LP-FCT, 3-MO-FP4
 Rivasto, Elmeri 1-MP-CC1, 2-MP-CC2, 3-MP-CC3
 Rizzo, Francesco 1-MP-SPR, 1-MP-CU, 1-MP-FP2,
 2-MO-FP1, 3-MP-FM, 3-MP-FP5
 Rmeid, Sajida 2-MP-BK2
 Robert, Bright 3-LP-HC, 2-MP-FP3
 Roch, Tomáš 1-MP-SPR, 3-MP-MD

Rochester, Jacob 1-MO-N3T
 Rodin, Igor 3-LP-HC
 Roditchev, Dmitriy 1-EP-JJ
 Rodrigo, Rebecca 3-EP-SQ
 Rodrigues Jr., Durval 3-MP-MG
 Rogacki, Krzysztof 1-MP-FP2
 Romaka, Vitaliy 2-MP-FP3
 Romanelli, Gherardo 1-LO-FL
 Romanov, Artur 2-MO-AP, 2-LP-RF
 Romans, Ed 3-EP-SQ
 Romba, Luís 2-LP-FCT
 Rondino, Flaminia 1-MP-CU
 Rong, Liangliang 3-EP-SQ
 Ronson, Emily 1-EP-SP
 Ros, Josep 1-MP-FP2, 2-MO-FP1
 Rosen, Peter 3-MP-MD
 Rossi, Lucio 1-LO-AM1, 1-LP-AM2, 3-LP-NM,
 3-LP-BM
 Rostek, Peter 2-LO-EA
 Rotzinger, Hannes 3-EP-QQ, 1-EP-EA
 Roura, Pere 3-MO-CU, 2-MO-FP1
 Roux, Christian 1-LP-AM2
 Rozier, Blaindine 3-LP-NM
 Ru, Yanyun 2-MP-BK2
 Ruban, Alexander 1-LP-AM2
 Rubanov, Sergey 1-EP-EA
 Rudakov, Kirill 2-EP-TMP
 Rudnev, Igor 1-MP-EP, 1-EP-EA, 3-LP-LE
 Ruffieux, Silvia 1-EO-AJ
 Rufoloni, Alessandro 1-MP-SPR, 1-MP-FP2, 2-MO-FP1,
 3-MP-FP5, 3-MP-FM
 Ruggiero, Berardo 3-EO-SNQ
 Ruiz, Harold 2-MP-FP3, 3-LP-HC
 Rummel, Thomas 1-LP-FM
 Rungger, Ivan 1-EP-JJ
 Ruoso, G. 3-EO-FA
 Rusanov, Denis 2-LO-RM, 2-LP-SMA
 Rutt, Alexander 1-MO-CS
 Ryabin, Timofey 1-LO-CA
 Ryazanov, Valeriy 1-EP-JJ

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Saba, Aisha 3-MO-CU
 Sadewasser, Mario 1-MO-SCC
 Sahin, Döndü 1-EP-SP
 Sahner, Thomas 1-LP-AM2
 Sahu, Anubhav 2-EP-DE2
 Saito, Atsushi 2-EP-TMP
 Saito, Hikaru 2-MO-FT
 Saito, Mikihiro 1-MO-MP
 Saito, Takahiro 1-LO-CA
 Sakai, Naomichi 3-MO-BM
 Sakamoto, Daiki 2-LP-FCT
 Sakamoto, Ryuhei 2-LP-MR

Sakamoto, Takuya 2-LP-FCT
 Sakewitz, Clay 1-MO-SCC
 Sakuma, Keita 1-MP-FP2
 Salina, Gaetano 3-EP-SQ
 Salm, Cora 1-LP-AM2
 Saltarelli, Lavinia 1-MP-CC1
 Salvoni, Daniela 2-EP-SDP
 Samoilenkov, Sergey 1-LP-PC, 1-MP-FP2, 1-MO-SCC,
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 Sano, Kyosuke 3-EP-SQ, 1-EP-EA
 Sanogawa, Yu 1-MO-MP
 Santoni, Antonino 1-MP-CU
 Saraf, Amir 3-MO-FP4
 Sarasola, Xabier 3-LP-BM
 Sardella, Edson 2-MP-FP3, 1-MP-SPR
 Sarwana, Saad 2-EP-DE2
 Sasa, Hiromasa 2-LP-FCT, 2-LP-SMA
 Sasase, Masato 3-MO-FW
 Sasayama, Teruyoshi 2-LP-SMA
 Sass, Felipe 2-LP-FCT
 Sato, Shinji 2-LP-MR
 Sato, Sotaro 1-LP-FM
 Sato, Yutaka S. 1-MP-SPR
 Satrapinsky, Leonid 1-MP-SPR
 Satrya, D. C. 3-EO-TS
 Saunderson, Elda 3-EP-SQ
 Savin, Alexander 2-EO-DA
 Savoldi, Laura 1-LP-FM, 1-LO-FL
 Saxby, Claire 2-MP-NB
 Schaapman, Kars 2-EP-DE2
 Scheiner, Marius 1-EO-AJ
 Scheiter, Juliane 3-MO-BM
 Scherbakov, Vladimir 3-LP-BM
 Scheuerlein, Christian 1-LP-AM2, 1-LP-AM2, 1-MO-N3T,
 1-MP-SPR
 Schindler, Lieze 2-EP-DE2
 Schirrmeister, Peter 1-MP-CU, 3-LO-TG
 Schlachter, Sonja I. 1-LP-PC, 2-LO-EA
 Schlenga, Klaus 1-MO-SCC, 2-MO-CP, 2-MP-CC2
 Schmid, Alexander 2-EP-SDP
 Schmidl, Frank 1-EP-JJ
 Schmidt, Daniel R. 2-EO-DA
 Schmidt, Ruediger 2-MP-NB
 Schmidt, Thomas 2-LP-RF
 Schmitz, Jurriaan 1-LP-AM2
 Schneider, Andre 3-EP-QQ
 Schneider, Christian 2-LO-EA
 Schneider, Markus 1-MP-SPR
 Schneider, Matthias 1-LP-FM
 Schneiderman, Justin F. 1-EO-AJ
 Schoellhorn, Claus 1-MO-SCC
 Schön, Yannick 1-EP-EA
 Schreiner, Fabian 3-LO-HH
 Schubert, Jonathan 2-MP-NB
 Schütz, Gisela 2-MP-FP3
 Sedlak, Kamil 1-LO-FL, 2-LO-FH, 3-LP-BM
 See, Patrick 1-EP-JJ

Seferai, Valentino 2-EP-TMP, 3-EP-QQ
 Segal, Christopher B. 1-LP-AM2, 2-MP-NB
 Seidel, Paul 1-EP-JJ, 3-EP-QQ
 Seiler, Eugen 2-MP-FP3, 3-MP-FP5
 Sekiya, Naoto 2-EP-TMP
 Sellers, John 3-MP-MD
 Selvamanickam, Venkat 1-MO-CS, 2-MO-AP
 Semenov, Alexander 1-EO-NW
 Semenov, Alexej 1-EO-NW
 Senatore, Carmine 1-LO-AM1, 1-MO-MP, 1-MO-BK1,
 1-MO-N3T, 2-MP-NB
 Sepehri, Sobhan 1-EO-AJ
 Sergeev, Vladimir 2-MP-NB
 Shaanika, Erasmus 2-LP-SMA
 Shadrin, Anton 3-EO-TS
 Shao, Qing 1-LP-FCL
 Shao, Yingyi 1-EP-JJ, 2-EP-DE2
 Shapovalov, Andrii 1-EP-JJ
 Shaternik, Volodymyr 1-EP-JJ
 Shelly, Connor D. 1-EP-JJ
 Shen, Boyang 2-LP-FCT, 3-LP-HM, 3-LO-HH
 Sheng, Chao 1-LO-SFC
 Sheng, Jie 2-LP-MR, 2-LP-FCT
 Shengnan, Zhang 3-MP-FM
 Shi, Jiangtao 1-MP-CC1
 Shi, Jianxin 2-EP-SDP, 2-EP-TMP
 Shi, Sheng-Cai 1-EP-EA, 2-EP-SDP
 Shi, Yi 1-MP-CC1, 2-LP-FCT, 2-LP-MR,
 2-MP-FP3, 3-LO-HH
 Shi, Yigong 2-MP-NB
 Shi, Yunhua 1-MO-BK1, 3-MO-CU, 1-MP-EP,
 1-MO-MP, 1-MP-CU, 2-LP-RF,
 2-MP-BK2, 3-LP-HM
 Shi, Zhengjun 2-LO-RM
 Shigemori, Atsushi 3-MP-MG, 3-LP-HC
 Shim, Jeong Hyun 2-LP-MR, 3-EP-SQ
 Shimada, Yusuke 1-MP-SPR
 Shimakage, Hisashi 2-EP-SDP
 Shimizu, Kazuki 1-MP-FP2
 Shimoyama, Jun-ichi 3-MO-BM, 3-MO-FW
 Shimoyashiki, Fumiya 2-MP-BK2
 Shin, Iksang 2-MP-NB
 Shin, Woosuck 3-MP-FP5
 Shintomi, Takakazu 3-LP-HC, 3-MP-MG
 Shiotsu, Masahiro 2-LP-FCT, 2-LP-SMA
 Shirai, Yasuyuki 2-LP-FCT, 2-LP-MR, 2-LP-SMA
 Shishido, Hiroaki 2-EO-DA
 Shishov, Dmitry 2-LP-SMA
 Shishov, Ivan 2-LP-SMA
 Shitov, Sergey 2-EO-DA
 Shupar, Mark 1-LP-AM2
 Shutova, Daria 3-LP-BM
 Shyshkin, Oleg 1-MP-SPR
 Siddiqi, Irfan 4-EO-PL3
 Sidorova, Mariia 1-EO-NW
 Sidrov, Gennady 3-MP-FP5
 Siegel, Michael 1-EO-NW, 2-EP-SDP

Sieger, Max
1-MP-FP2, 1-MP-CU, 2-MO-FP1,
3-MP-CC3

Siemko, Andrzej
2-MP-NB

Silaev, Alexander
2-MP-NB

Silva, Enrico
2-MO-FT, 2-MP-FP3, 3-MP-FP5,
2-MO-FP1, 3-MP-FM, 3-MO-FP4

Silva, Helder
1-LO-AM1

Silvestrini, Paolo
3-EO-SNQ

Simmendinger, Julian
2-MP-FP3

Simon, Charles
3-LO-HL

Sin, Hyuk Yim
1-EP-EA

Singh, Shiv J.
3-MP-FM

Sirois, Adam
2-EO-DE1

Sirois, Frédéric
1-LP-FCL, 1-LO-SFC, 1-LO-SFC,
2-MO-CP, 3-MO-FP4, 3-LO-HH
2-LP-FCT, 3-MP-CC3

Skarba, Michal
2-MO-FT

Skrotzki, Werner
1-EP-JJ

Skryabina, Olga
3-LP-NM, 3-MP-FP5, 2-LO-FH

Slade, Robert
1-EP-SP

Slater, Ben
1-MO-MP, 1-MO-BK1, 2-LO-RM,
2-LP-SMA, 2-LP-CO

Smara, Anis
2-EO-DA

Smirnov, Eugeny
3-MP-MO1

Smith, Andrew
1-EO-AJ

Smith, Charles G.
3-MP-MD

Smith, Robert
3-MP-MD

Smolyaninov, Igor
3-MP-MD

Smolyaninova, Vera
1-LP-FCL

So, Jooyeong
3-EO-FA

Sobolev, Alexandr
3-MP-CC3

Sojková, Michaela
3-MP-MO1

Sokolovsky, Vladimir
1-MP-CU, 2-MO-FP1, 3-MO-CU

Soler, Laia
1-EP-JJ

Soloviev, Igor
3-LP-NM

Solovyov, Mykola
1-LP-PC

Son, HyukChan
2-MP-CC2

Song, Dongbin
3-MO-FP4

Song, Dongjoon
3-LO-HH

Song, Jung-Bin
2-LO-RM

Song, Meng
1-LP-PC

Song, Naihao
2-LO-RM

Song, Peng
1-LP-FCL, 3-LP-NM

Song, Wenjuan
1-LO-FL, 2-LO-FH, 3-LP-NM

Song, Yuntao
1-EP-SP

Sorel, Marc
1-MP-FP2, 3-MP-FP5

Sotgiu, Giovanni
2-MO-CP, 2-LP-FCT, 3-LP-NM

Šouc, Ján
2-MP-FP3

Souto, Vinicius
1-MP-CU

Souza, Gisele
2-EO-DA

Soyama, Kazuhiko
3-LP-LE

Sparing, Maria
1-MO-BK1, 1-MP-BI, 1-MP-CC1,
2-MP-NB, 2-MP-BK2, 3-MP-FP5,
3-LP-BM

Speller, Susannah
1-MO-BK1, 1-MO-MP, 1-MP-CU

Srpčić, Jan
2-MP-NB

Stachon, Krzysztof
3-LP-NM

Staines, Mike

Stammen, Joerg
1-LO-CA

Starch, William L.
1-MO-N3T

Starikovskii, Aleksander
1-MP-EP, 3-LP-LE

Statra, Yazid
3-MP-MO1

Stauffer, Theodore C.
1-MO-N3T

Steckert, Jens
1-LO-AM1

Stehli, Alexander
2-EO-QT, 3-EP-QQ

Stepanov, Boris
3-LP-BM, 2-LO-FH

Stepien, Mariusz
2-LP-SMA

Stetco, Elena
1-EP-EA

Stöger-Pollach, Michael
1-MO-N3T, 2-MP-NB

Stolyarov, Vasilij
1-EP-JJ, 3-EO-TS

Strange, Daniel
3-LP-BM, 3-LO-HL

Straub, Severin
1-LP-PC, 2-LP-FCT

Strickland, Nicholas
2-LO-OM

Strømme, Maria
1-EO-AJ

Su, Yi-Feng
1-MO-BK1, 3-MP-FM

Suárez, Pilar
2-LP-FCT

Suarez-Villagran, Martha
2-MO-AP

Sublet, Alban
2-MP-FP3

Sugane, Hideo
1-LP-PC

Sugiura, Toshihiko
3-LP-LE

Suguchi, Ryota
2-LP-SMA

Sumption, Michael
1-MO-N3T, 2-LP-MR, 2-MP-NB,
2-MO-AP, 3-MO-BM

Sun, Guozhu
2-EP-TMP

Sun, Hancong
3-EO-TM

Sun, Liang
2-EP-TMP, 3-MP-FM

Sun, Ning-Hui
2-EO-DE1, 2-EP-DE2

Sun, Sicong
2-MO-AP

Sun, X. Q.
1-EP-SP

Sundaram, Aarthi
1-MP-FP2

Sundqvist, Kyle
3-EO-TS

Surin, Mihail
3-LP-BM

Surrey, Elizabeth
1-MO-MP, 1-LO-FL, 1-LP-FM,
2-MP-NB, 3-MP-MO1

Susner, Michael
2-MP-FP3

Suwa, Takahiro
3-MO-FW

Suzuki, Keisuke
3-MP-FP5

Suzuki, Kenji
1-LP-PC

Suzuki, Takaaki
3-MO-BM, 2-LP-SMA

Suzuki, Takumi
3-LP-NM

Swetz, Daniel S.
2-EO-DA

Sylva, Giulia
2-MO-FT, 3-MO-FP4

Sysoev, Mikhail
1-MP-EP

Sytnikov, Victor
1-LO-CA

Szwangruber, Piotr
1-LP-AM2

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Taborelli, Mauro
2-LP-RE, 2-MO-AP

Tafari, Francesco
3-EP-QQ, 1-EP-JJ, 3-EO-TS,
2-EO-QT

Taino, Tohru
3-EP-SQ

Taka, Chihiro
2-MP-FP3

Takada, Suguru 2-LO-FH
 Takahashi, Keita 1-MO-BK1
 Takahashi, Koki 3-LP-NM
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 Takano, Yoshihiko 3-MP-MD
 Takao, Tomoaki 3-LP-LE, 3-MP-MG
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 Takeshita, Nao 3-MO-FW
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 Tamegai, Tsuyoshi 2-MO-FT, 3-MO-FW
 Tamura, Hitoshi 1-LP-FM
 Tan, Yunfei 2-LP-CO, 3-LP-HM, 3-LO-HH
 Tanabe, Hajime 2-LP-MR
 Tanabe, Keiichi 3-EP-SQ, 3-MP-FM
 Tanaka, Hideki 3-MO-BM, 2-LP-SMA
 Tanaka, Masamitsu 1-EP-EA, 3-EP-SQ
 Tanaka, Saburo 2-EP-SDP, 3-EP-SQ
 Tanaka, Shunkichi 2-EP-SDP
 Tanaka, Teruya 1-LP-FM
 Tanatar, Makariy A. 2-MO-FT
 Tanazawa, Masayuki 1-LP-PC, 1-LO-CA
 Tang, Guang-Ming 2-EO-DE1, 2-EP-DE2
 Tang, Xin 1-EP-JJ
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 Tao, Quan 3-EP-SQ
 Tarantini, Chiara 2-MO-FT, 2-MP-NB, 3-MP-FM,
 1-MO-BK1, 2-MP-NB, 1-MO-N3T
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 Taylor, Richard 2-LO-RM
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 ten Kate, Herman H J 1-LO-AM1, 2-LO-FH, 3-LP-NM
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 Terao, Naho 2-MP-CC2
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 Tock, Jean Philippe 1-LP-AM2
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Uglietti, Davide	1-LP-FM, 2-LO-FH
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Umeno, Takahiro	2-LP-SMA
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Unterrainer, Raphael	3-MO-FP4, 3-MP-FP5
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Uzawa, Yoshinori	2-EP-SDP

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NOTES

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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Handwriting practice lines consisting of 20 horizontal lines.





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Contacts: Vitaly Vysotsky: vysotsky@ieee.org
Konstantin Kovalev: kaf310mai@gmail.com
Grigory Goltzman: goltzman@msspu-physics.ru

